San Bernardino County

Reported Communicable Diseases 2000

County of San Bernardino
Human Services System
Department of Public Health

December 2001

Acknowledgments

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This report presents a summary of communicable diseases reported in San Bernardino County in 2000. The contents are divided into 3 sections:

1. Tables of reported communicable diseases by age group and by race/ethnicity, and incidence of reported diseases preventable by immunization;

2. Graphs representing 10 to 20 year incidence and incidence rates per 100,000 population;

3. Special Disease Focus: Risk Factors for Hepatitis A Infection Among San Bernardino County Residents in 2000.

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Comments regarding the report are welcome and may be addressed to:

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San Bernardino County Reported Communicable Diseases 2000

Introduction

The San Bernardino County Department of Public Health is charged by California law and San Bernardino County Code with protection of the health of the County's over 1.7 million citizens. To fulfill this responsibility, the Department carries out a broad and comprehensive public health program which includes public health services mandated by the State of California, a substantial range of personal health services requested by the people and chosen as priority matters by the San Bernardino County Board of Supervisors, and a number of County-mandated regulatory services related to health.

Why Reporting of Communicable Disease is Important

Physicians and personnel in laboratories, schools, daycare centers and others are obligated by law to report certain communicable diseases to the local department of public health. Monitoring reports of communicable disease in a community allows public health to fulfill its mandate of protecting the health of its citizens. With timely morbidity reports, public health can evaluate the impact of a given disease and make appropriate recommendations to limit its further spread.

Delay or failure to report communicable diseases has contributed to serious outbreaks in the past. Failure to report can result in increased disease in the community, time lost from work or school, increased costs for diagnosis and treatment, hospitalization and possibly death.
When reporting does occur, removing persons from sensitive occupations, (e.g. food handlers), prevents the spread of diseases such as salmonellosis and hepatitis A. The early detection and appropriate treatment of patients with tuberculosis, the identification of asymptomatic carriers of typhoid and gonorrhea, the immunization of persons exposed to vaccine-preventable diseases and alerting healthcare providers about prevalent infections are just a few of the benefits derived by the entire community when reporting is timely and accurate.

Purpose of the Communicable Disease Report

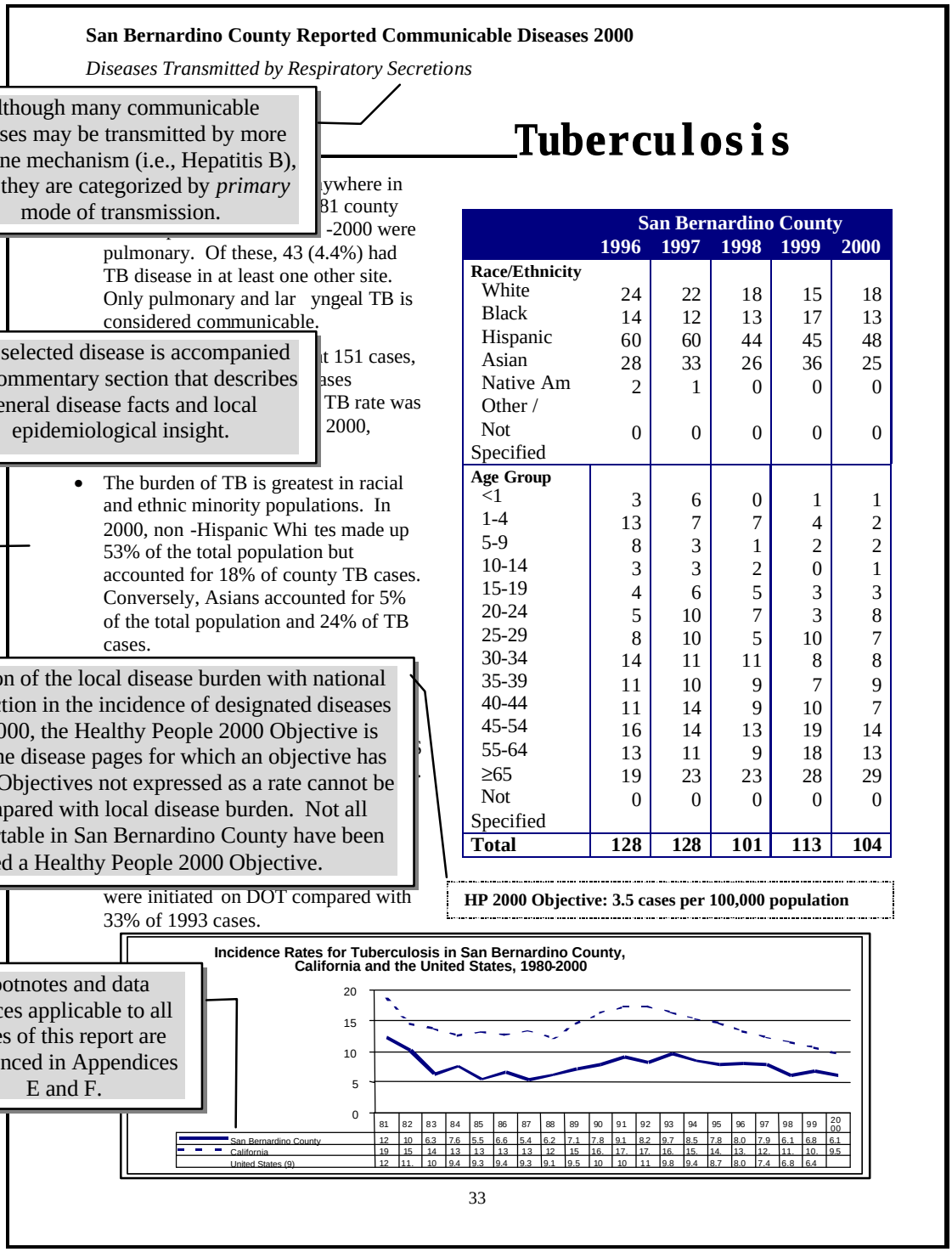
The San Bernardino County Department of Public Health annual summary of communicable disease serves several functions. The report describes the extent and burden of various reported illnesses for the residents in this County. Where the impact of a certain disease in a particular group of individuals appears high, this information can be used to redirect disease control efforts. Additionally, this report helps evaluate the effectiveness of disease prevention and control programs currently operating in the County. It represents an evolving effort by several disease control programs in the County. As the communicable disease concerns of our citizens change, the data collected and summarized in this report will also change.

Additional information concerning AIDS illnesses in this County is available in summary reports generated by the San Bernardino County Department of Public Health AIDS/STD Program, and can be obtained by calling the AIDS Program at (909) 383-3060.

San Bernardino County Reported Communicable Diseases 2000

Diseases Transmitted by Respiratory Secretions

The San Bernardino County Department of Public Health Epidemiology Program is pleased to present a new format for the document Reported Communicable Diseases 2000. This new format contains more epidemiological data as well as 5-year historical incidence by racial/ethnic group and age group. Some of the features of the newly formatted disease pages are described below.



	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	24	22	18	15	18
Black	14	12	13	17	13
Hispanic	60	60	44	45	48
Asian	28	33	26	36	25
Native Am	2	1	0	0	0
Other / Not Specified	0	0	0	0	0
Age Group					
<1	3	6	0	1	1
1-4	13	7	7	4	2
5-9	8	3	1	2	2
10-14	3	3	2	0	1
15-19	4	6	5	3	3
20-24	5	10	7	3	8
25-29	8	10	5	10	7
30-34	14	11	11	8	8
35-39	11	10	9	7	9
40-44	11	14	9	10	7
45-54	16	14	13	19	14
55-64	13	11	9	18	13
≥65	19	23	23	28	29
Not Specified	0	0	0	0	0
Total	**128**	**128**	**101**	**113**	**104**

Data Limitations

The obligation for health care professionals to report designated diseases and conditions to their local Department of Public Health is mandated by Title 17, Sections 2500 and 2505 of the California Code of Regulations. The data presented in this report was tabulated from disease reports received from laboratories, hospitals, physicians, schools and other health providers throughout the county through the passive surveillance system established for reportable conditions. For this reason, a few major limitations must be acknowledged when interpreting these data.

First, the incidence of disease presented in this report underrepresents the true burden of disease in San Bernardino County. It is clear that not every reportable disease or condition is actually identified by or reported to the Department of Public Health. Individuals may not be ill enough to require medical care or the physician may not request testing of the patient at the time of the office visit. Diseases and conditions reportable only by physicians (see Appendix C) are significantly underreported. Illnesses that are a) fatal, b) require prophylaxis for prevention or c) are reportable by both laboratories and physicians are more likely to be reported.

Additionally, public health data may not reflect the true risk of exposure of county residents to a particular pathogen. Individuals identified as having a notifiable condition are reported by place of residence, not by place of exposure. Immigrants and other individuals who travel both domestically and abroad may acquire an unusual illness or other condition in the location of travel. These individuals are nevertheless counted in San Bernardino County if their address of residence is within the County. Conversely, residents who visit San Bernardino County may acquire an infection here and subsequently be reported by the health jurisdiction in which they permanently reside. County residents who are exposed to a communicable disease in another county where they work or socialize may unknowingly be part of a multi-county outbreak.

Section 1

Reported Communicable Diseases in 2000

Table 1: By Age Group

Table 2: By Race/Ethnicity

Table 3: Preventable by Immunization

Table 1. Reported Communicable Diseases by Age Group (in years), San Bernardino County, 2000.

DISEASE NAME	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-54	55-64	65+	Unknown	Total
AIDS (1)	0	0	1	0	4	1	15	12	35	26	27	6	1	0	128
Amebiasis	0	2	1	0	0	1	0	0	1	0	1	0	1	0	7
Anthrax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ascariasis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Botulism, Infant	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Botulism, Wound	0	0	0	0	0	0	1	0	0	0	2	0	0	0	3
Brucellosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Campylobacteriosis	6	38	16	11	7	10	12	10	7	13	11	8	13	0	162
Chlamydia	5	1	5	90	1,788	1,825	704	362	181	94	64	9	9	0	5,137
Chlamydial PID (2)	0	0	0	1	4	7	0	0	0	0	0	0	0	0	12
Cholera (3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coccidioidomycosis	0	0	0	0	3	0	0	1	3	0	2	3	1	0	13
Cryptococcosis	0	0	0	0	1	0	0	2	1	0	1	2	1	0	8
Cryptosporidiosis	0	0	0	0	1	0	0	3	1	1	1	0	0	0	7
Cysticercosis	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
Dengue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Encephalitis, Viral	0	0	0	0	1	0	0	0	2	0	0	2	1	0	6
Escherichia coli O157:H7	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2
Giardiasis	3	29	15	4	1	4	8	3	10	5	8	5	3	0	98
Gonorrhea, Total (4)	1	0	2	13	307	326	173	94	69	39	37	7	5	0	1,073
Gonococcal PID (2)	0	0	0	0	3	3	2	1	0	0	0	0	0	0	9
Haemophilus Influenzae Invasive (5)	1	0	0	0	0	0	0	0	0	1	0	0	1	0	3
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hemolytic Uremic Syndrome	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hepatitis A	0	10	28	21	14	7	16	7	8	3	9	2	3	0	128
Hepatitis B, (Acute)	0	0	0	0	0	1	3	3	2	1	8	1	2	0	21
Hepatitis B, (Carrier)	2	1	4	5	24	31	61	82	51	72	120	42	36	0	531
Hepatitis C, (Acute)	1	0	0	0	0	2	1	0	0	5	0	0	0	0	9
Hepatitis C, (Chronic) (6)	1	4	2	8	17	49	94	257	504	609	991	305	126	0	2,967
Hepatitis D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Influenza (Types A and B)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kawasaki Syndrome	1	1	1	1	0	0	0	0	0	0	0	0	0	0	4
Legionellosis	0	0	0	0	0	0	0	0	0	1	2	0	1	0	4
Leprosy (Hansen's Disease)	0	0	0	0	1	0	0	2	0	0	1	0	0	0	4
Leptospirosis	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Listeriosis	0	0	0	0	0	0	0	0	1	0	1	0	1	0	3
Lyme Disease	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Malaria	0	0	0	0	0	1	0	1	0	2	0	1	0	0	5
Measles (Rubeola)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningitis, Bacterial (7)	0	1	0	0	2	0	0	0	0	0	0	0	2	0	5
Meningitis, Fungal	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2

Table 1. Reported Communicable Diseases by Age Group (in years), San Bernardino County, 2000.

DISEASE NAME	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-54	55-64	65+	Unknown	Total
Meningitis, Viral	7	5	8	8	4	5	6	4	5	2	2	0	0	0	56
Meningococcal Disease (8)	0	3	0	1	1	2	0	0	0	0	0	0	0	0	7
Mumps	0	0	3	0	0	1	0	0	0	1	1	0	0	0	6
Non-Gonococcal Urethritis	0	0	0	0	13	47	38	26	20	14	24	4	0	0	186
Pelvic Inflammatory Disease (2)	0	0	0	0	12	19	16	17	14	6	4	0	0	0	88
Pertussis (Whooping Cough)	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
Plague	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psittacosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Q-Fever	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Rabies, Human	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubella (German Measles)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rubella Syndrome, Congenital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salmonellosis	15	36	19	12	8	13	3	6	4	6	11	13	18	0	164
Shigellosis, Total	0	15	13	6	3	7	10	4	2	6	1	3	1	0	71
Group A (S. dysenteriae)	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Group B (S. flexneri)	0	4	3	0	0	0	0	1	1	0	0	2	0	0	11
Group C (S. boydii)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Group D (S. sonnei)	0	8	10	5	3	7	8	3	1	5	1	1	1	0	53
Group Unknown	0	3	0	1	0	0	1	0	0	0	0	0	0	0	5
Strongyloidiasis	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Syphilis, Total	1	0	0	0	4	12	13	23	31	17	19	9	7	0	136
Primary	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Secondary	0	0	0	0	1	1	2	1	2	0	1	0	0	0	8
Early Latent (<1 yr)	0	0	0	0	0	0	3	0	1	0	0	0	0	0	4
Late Latent/Late (>1 yr)	0	0	0	0	3	11	8	22	26	17	18	9	7	0	121
Congenital	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Tetanus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	1	2	2	1	3	8	7	8	9	7	14	13	29	0	104
Tularemia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Typhoid Fever, (Acute)	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
Typhoid Fever, (Carrier)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vibrio Infections (3)	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Yellow Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yersiniosis	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2

See Appendices F and G for Notes and Sources for Table 1

Table 2. Reported Communicable Diseases by Race/Ethnicity, San Bernardino County, 2000.

	White	Black	Hispanic	Native American	Asian	Other	Unknown	Total
AIDS (1)	49	41	37	0	1	0	0	128
Amebiasis	2	0	4	0	1	0	0	7
Anthrax	0	0	0	0	0	0	0	0
Ascariasis	0	0	0	0	0	0	0	0
Botulism, Infant	0	0	1	0	0	0	1	2
Botulism, Wound	0	0	2	0	0	0	1	3
Brucellosis	0	0	0	0	0	0	0	0
Campylobacteriosis	46	5	58	0	2	0	51	162
Chlamydia	903	838	1,271	11	65	107	1,942	5,137
Chlamydial PID (2)	2	1	3	0	0	0	6	12
Cholera (3)	0	0	0	0	0	0	0	0
Coccidioidomycosis	2	1	5	0	1	0	4	13
Cryptococcosis	1	2	3	0	0	0	2	8
Cryptosporidiosis	2	2	2	0	0	0	1	7
Cysticercosis	0	0	2	0	0	0	0	2
Dengue	0	0	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0	0	0
Encephalitis, Viral	1	0	2	0	0	0	3	6
Escherichia coli O157:H7	1	0	1	0	0	0	0	2
Giardiasis	40	2	20	0	1	2	33	98
Gonorrhea, Total (4)	127	378	129	1	7	39	392	1,073
Gonococcal PID (2)	0	0	4	0	0	0	5	9
Haemophilus Influenzae Invasive (5)	2	0	1	0	0	0	0	3
Hantavirus Pulmonary Syndrome	0	0	0	0	0	0	0	0
Hemolytic Uremic Syndrome	0	0	1	0	0	0	0	1
Hepatitis A	53	5	61	0	1	1	7	128
Hepatitis B, (Acute)	6	5	5	0	1	0	4	21
Hepatitis B, (Carrier)	77	37	41	1	212	10	153	531
Hepatitis C, (Acute)	6	0	3	0	0	0	0	9
Hepatitis C, (Chronic) (6)	281	91	151	5	15	6	2,418	2,967
Hepatitis D	0	0	0	0	0	0	0	0
Influenza (Types A and B)	0	0	0	0	0	0	0	0
Kawasaki Syndrome	0	0	4	0	0	0	0	4
Legionellosis	3	1	0	0	0	0	0	4
Leprosy (Hansen's Disease)	0	0	1	0	3	0	0	4
Leptospirosis	1	0	0	0	0	0	0	1
Listeriosis	2	0	1	0	0	0	0	3
Lyme Disease	0	0	0	0	1	0	0	1
Malaria	2	0	2	0	0	0	1	5
Measles (Rubeola)	0	0	0	0	0	0	0	0
Meningitis, Bacterial (7)	2	0	2	0	0	0	1	5
Meningitis, Fungal	0	0	0	0	0	0	2	2

Table 2. Reported Communicable Diseases by Race/Ethnicity, San Bernardino County, 2000.

	White	Black	Hispanic	Native American	Asian	Other	Unknown	Total
Meningitis, Viral	25	6	18	0	4	0	3	56
Meningococcal Disease (8)	3	1	2	0	1	0	0	7
Mumps	4	0	2	0	0	0	0	6
Non-Gonococcal Urethritis	47	69	47	1	2	5	15	186
Pelvic Inflammatory Disease (2)	8	3	15	0	1	2	59	88
Pertussis (Whooping Cough)	3	0	2	0	0	0	0	5
Plague	0	0	0	0	0	0	0	0
Psittacosis	0	0	0	0	0	0	0	0
Q-Fever	1	0	0	0	0	0	0	1
Rabies, Human	0	0	0	0	0	0	0	0
Rubella (German Measles)	0	0	0	0	0	0	0	0
Rubella Syndrome, Congenital	0	0	0	0	0	0	0	0
Salmonellosis	80	10	55	0	7	0	12	164
Shigellosis, Total	21	5	28	0	1	1	15	71
Group A (S. dysenteriae)	0	0	1	0	0	0	0	1
Group B (S. flexneri)	1	0	6	0	1	0	3	11
Group C (S. boydii)	0	0	1	0	0	0	0	1
Group D (S. sonnei)	19	5	16	0	0	1	12	53
Group Unknown	1	0	4	0	0	0	0	5
Strongyloidiasis	0	0	0	0	1	0	0	1
Syphilis, Total	15	29	46	1	4	5	36	136
Primary	0	1	1	0	0	0	0	2
Secondary	2	4	1	0	0	0	1	8
Early Latent (<1 yr)	1	1	2	0	0	0	0	4
Late Latent/Late (>1 yr)	12	23	41	1	4	5	35	121
Congenital	0	0	1	0	0	0	0	1
Tetanus	0	0	0	0	0	0	0	0
Tuberculosis	18	13	48	0	25	0	0	104
Tularemia	0	0	0	0	0	0	0	0
Typhoid Fever, (Acute)	0	0	0	0	2	0	0	2
Typhoid Fever, (Carrier)	0	0	0	0	0	0	0	0
Vibrio Infections (3)	1	0	0	0	0	0	0	1
Yellow Fever	0	0	0	0	0	0	0	0
Yersiniosis	1	0	0	0	0	0	1	2

See Appendices F and G for Notes and Sources for Table 2

Table 3. Reported Cases of Diseases Preventable by Immunization
San Bernardino County, 1998-2000

	Reported Cases					
	All Ages			Children <5 Years		
Disease	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**
Congenital Rubella Syndrome	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0
Haemophilus influenzae*	1	2	3	0	0	1
Hepatitis A	268	132	128	23	11	10
Hepatitis B (acute)	27	32	21	0	0	0
Hepatitis B Carrier	389	451	531	1	2	3
Measles (Rubeola)	0	0	0	0	0	0
Meningococcal Infection*	9	8	7	6	3	3
Mumps	8	8	6	1	0	0
Pertussis	10	16	5	9	14	5
Pneumococcal Infection*	3	7	7	0	2	1
Poliomyelitis, paralytic	0	0	0	0	0	0
Rubella	0	0	0	0	0	0
Tetanus	0	1	0	0	0	0

* Includes both Meningitis and Sepsis

Section 2

Incidence Rates, 10 to 20 year

Graphs of incidence and rate per 100,000 population of selected reportable diseases.

Hepatitis B, Acute

- Acute infection with hepatitis B virus (HBV) is characterized by anorexia, abdominal pain, and nausea, which progresses to jaundice in 10% of children and 30-50% of adults. Only a small proportion of acute infections is symptomatic, resulting in considerable underreporting to local health departments. About 10% of adults with acute infection progress to chronic infection, and are then considered infectious for life.

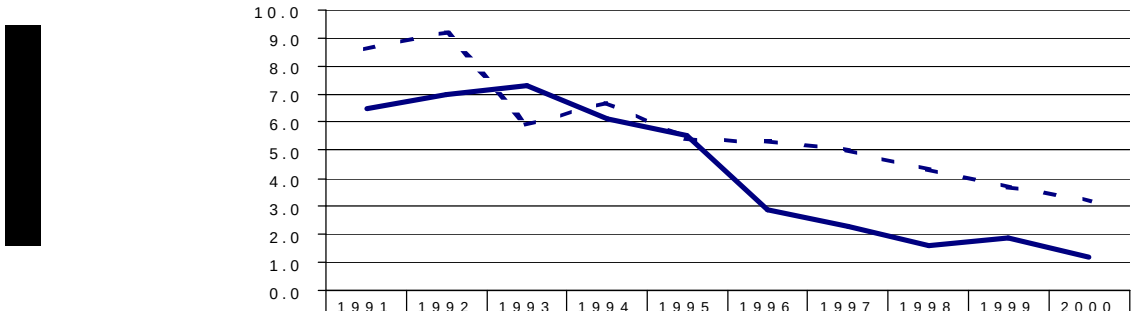
- Up to 80% of hepatocellular carcinomas are caused by HBV infection, which is second only to tobacco among known human carcinogens (American Public Health Association, 2000).

- Incidence peaked in the US in 1985 at approximately 70 cases per 100,000 population and has since steadily declined. Several factors have aided the progress in reducing HBV morbidity in the US, including the licensure of the current hepatitis B vaccine and subsequent incorporation into the childhood immunization schedule. Other practices initiated to reduce the spread of HIV infection also led to a reduction in HBV cases in gay men and injection drug users among others. Birth outside the US is perhaps the most commonly associated risk, however, gay men, injecting drug users and heterosexuals with multiple sex partners remain at risk.

- During 1996-2000, 65.6% of County cases were male. During this period 48.3% of cases with an identified racial or ethnic group were White.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	12	12	7	21	6
Black	5	3	3	4	5
Hispanic	8	9	8	2	5
Asian	4	2	0	2	1
Native Am	1	0	0	0	0
Other / Not Specified	16	11	9	3	4
Age Group					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	1	0	0	0	0
10-14	0	0	0	1	0
15-19	6	2	0	1	0
20-24	3	2	4	4	1
25-29	3	5	6	2	3
30-34	10	6	7	4	3
35-39	9	7	6	4	2
40-44	5	4	1	7	1
45-54	7	8	1	6	8
55-64	2	2	2	2	1
≥65	0	1	0	1	2
Not Specified	0	0	0	0	0
Total	**46**	**37**	**27**	**32**	**21**

Incidence Rates for Acute Hepatitis B in San Bernardino County, California and the United States, 1991-2000



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	6.5	7.0	7.3	6.1	5.5	2.9	2.3	1.6	1.9	1.2
California	8.6	9.2	5.9	6.7	5.4	5.3	5.0	4.3	3.7	3.2
United States (9)	7.1	6.3	5.2	4.8	4.1	4.0	3.9	3.8	2.8	

Hepatitis C, Acute

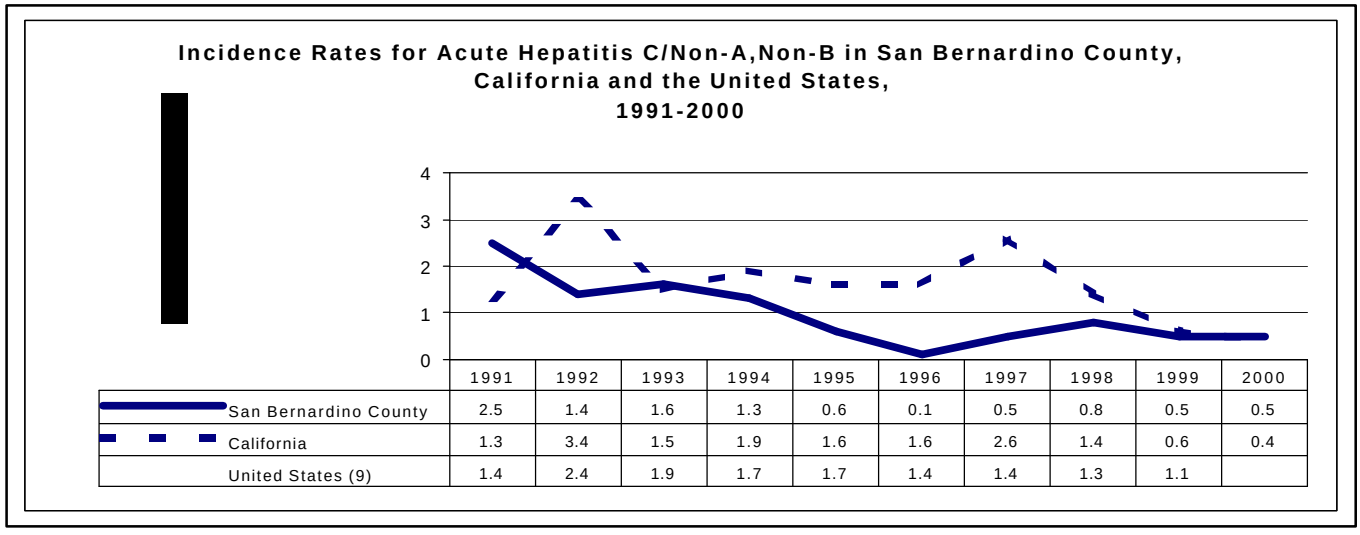
- As few as 10% of those with hepatitis C virus (HCV) infection develop symptoms but 70-80% develop chronic infection. Chronic HCV infection can result in serious liver damage and is the leading cause of liver transplants in the US. The most common risk factors for HCV infection are having received a blood transfusion prior to 1992 and injecting illicit drugs.

- Hepatitis C became a reportable disease in California in February 1996. Because current laboratory methods do not permit differentiation between acute and chronic hepatitis C infection, the current definition for an acute HCV infection was adopted nationally in May 1997 and must include all of the following:
  - an acute illness with discrete symptom onset
  - serum aminotransferase levels > 7.0 times the upper limit of normal
  - antibody to hepatitis C virus, verified by a supplemental test
  - negative tests for acute hepatitis A and B

- The incidence of acute hepatitis C appears small, but the public health impact of chronic infection and subsequent sequalae is enormous. In San Bernardino County, 2,967 **chronic** infections were reported in 2000. Ninety-four percent of those were age 30 years or older.

- During 1996-2000, there were 40 acute cases in San Bernardino County, of which 16 (40%) were Hispanic and 24 (60%) were male.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	1	1	5	2	6
Black	0	1	1	2	0
Hispanic	0	6	5	2	3
Asian	0	0	0	1	0
Native Am	0	0	0	0	0
Other / Not Specified	1	0	2	1	0
Age Group					
<1	0	0	0	0	1
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	0	0	0	0	0
20-24	0	0	1	0	2
25-29	0	0	1	1	1
30-34	0	2	3	3	0
35-39	0	2	4	1	0
40-44	1	2	1	3	5
45-54	1	2	0	0	0
55-64	0	0	2	0	0
≥65	0	0	1	0	0
Not Specified	0	0	0	0	0
Total	**2**	**8**	**13**	**8**	**9**



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	2.5	1.4	1.6	1.3	0.6	0.1	0.5	0.8	0.5	0.5
California	1.3	3.4	1.5	1.9	1.6	1.6	2.6	1.4	0.6	0.4
United States (9)	1.4	2.4	1.9	1.7	1.7	1.4	1.4	1.3	1.1	

Amebiasis

- Humans serve as the reservoir for *Entamoeba histolytica* infections. Infection occurs when the cyst form of the protozoan *E. histolytica* is consumed in food and water. Sexual practices that involve direct oral-anal contact may also transmit the protozoan.

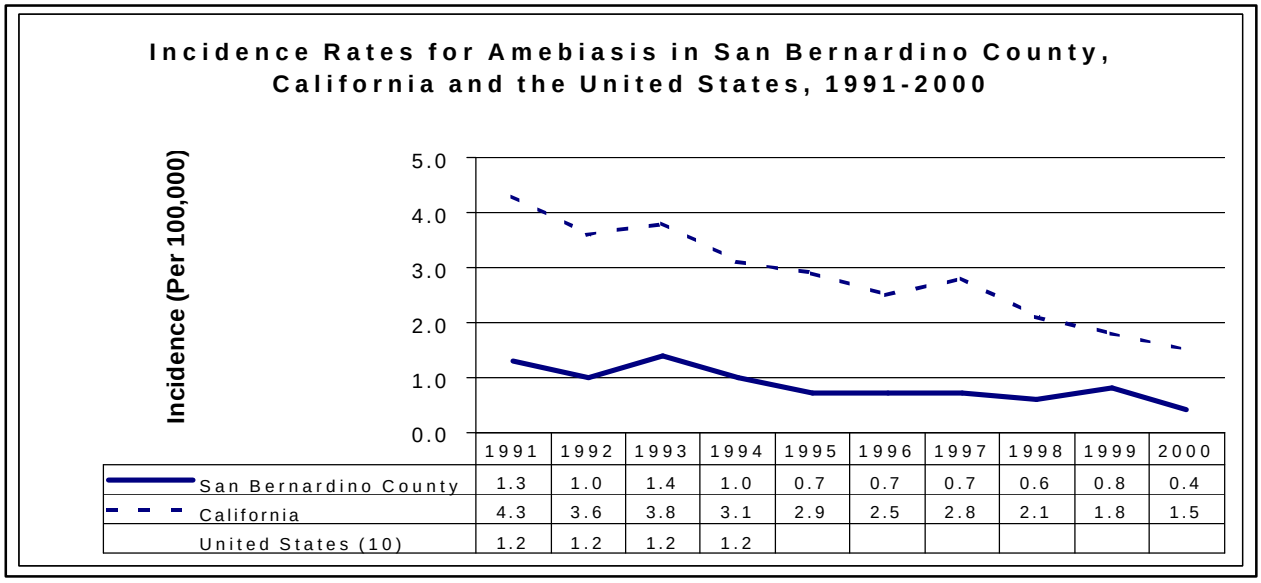
- Many infections are asymptomatic, however, symptoms can include fever, chills, abdominal discomfort, and bloody or mucoid diarrhea. Rarely the parasite may spread through the bloodstream to the liver.

- Diagnosis is made by examination of fecal specimens under a microscope.

- Preventing transmission involves treating cases, educating the public on the importance of handwashing after using the restroom and before preparing food, and protecting food and water supplies from fecal contamination.

- During 1991-2000, the rates for both San Bernardino County and California decreased three-fold.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	1	1	2	7	2
Black	2	1	1	1	0
Hispanic	4	7	5	3	4
Asian	2	0	0	0	1
Native Am	0	0	0	0	0
Other / Not Specified	2	3	1	3	0
Age Group					
<1	0	0	1	0	0
1-4	0	0	2	3	2
5-9	1	3	0	3	1
10-14	0	0	2	0	0
15-19	0	0	0	0	0
20-24	0	1	1	0	1
25-29	0	2	0	0	0
30-34	3	2	1	1	0
35-39	2	1	0	4	1
40-44	0	1	1	0	0
45-54	2	0	0	0	1
55-64	0	0	1	2	0
≥65	3	2	0	1	1
Not Specified	0	0	0	0	0
Total	**11**	**12**	**9**	**14**	**7**



Campylobacteriosis

- *Campylobacter jejeuni* is a common bacterium associated with consumption of undercooked chicken, beef, pork and unpasteurized milk. Contact with puppies and kittens with diarrhea can also be a source of infection.

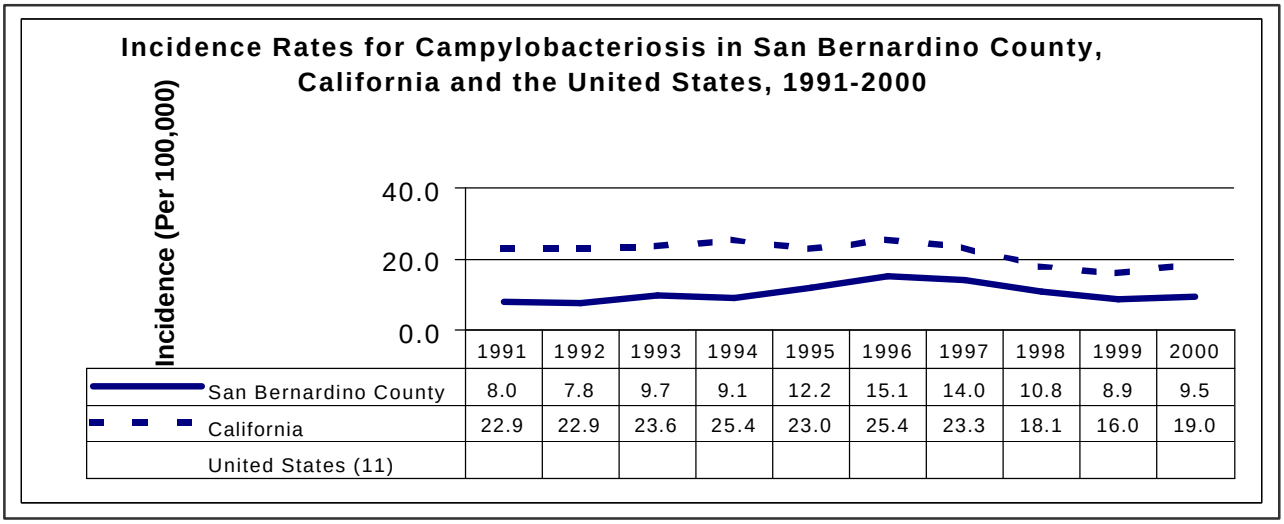
- Symptoms of illness may include diarrhea, abdominal cramps, fever, malaise, vomiting, and nausea, and usually last 2 to 5 days. Some cases appear clinically like appendicitis.

- In 1996 in San Bernardino County, 28 people became ill with campylobacteriosis as a result of chicken and pork cooked in a backyard barbecue pit at a church barbecue.

- Of the 961 cases reported from 1996 to 2000, 407 (42.4%) were Hispanic. These data may reflect a difference in the preferences for dishes that contain undercooked chicken or pork among ethnic groups. The largest number of reported cases were in the 1 to 4 year age group. The peak incidence in cases in this age group may reflect the smaller infective dose required in smaller children and an increased tendency to seek medical care for this age group.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	61	81	31	49	46
Black	12	6	4	5	5
Hispanic	84	111	77	77	58
Asian	4	3	3	6	2
Native Am	0	0	0	0	0
Other / Not Specified	79	26	62	18	51
Age Group					
<1	19	11	11	4	6
1-4	44	42	34	40	38
5-9	23	20	14	22	16
10-14	11	13	10	8	11
15-19	7	17	9	6	7
20-24	11	14	6	8	10
25-29	27	16	9	10	12
30-34	18	19	11	7	10
35-39	14	12	17	10	7
40-44	12	8	13	10	13
45-54	27	23	20	13	11
55-64	14	17	10	12	8
≥65	13	15	13	5	13
Not Specified	0	0	0	0	0
Total	**240**	**227**	**177**	**155**	**162**

HP 2000 Objective: 25 cases per 100,000 population



E. coli O157:H7 Infection

- There are several strains of *Escherichia coli* that can cause illness. *E. coli O157:H7* was first identified in 1982 after an outbreak of hemmorrhagic colitis in the US. In 1993, *E. coli O157:H7* caused an outbreak of illnesses in several western states associated with consumption of undercooked hamburgers at a fast food chain. The majority of cases occurred in the younger age groups. Outbreaks have also occurred in association with consumption of unpasteurized milk and apple cider, and activities such as swimming in inadequately chlorinated pools with diaper-aged children.

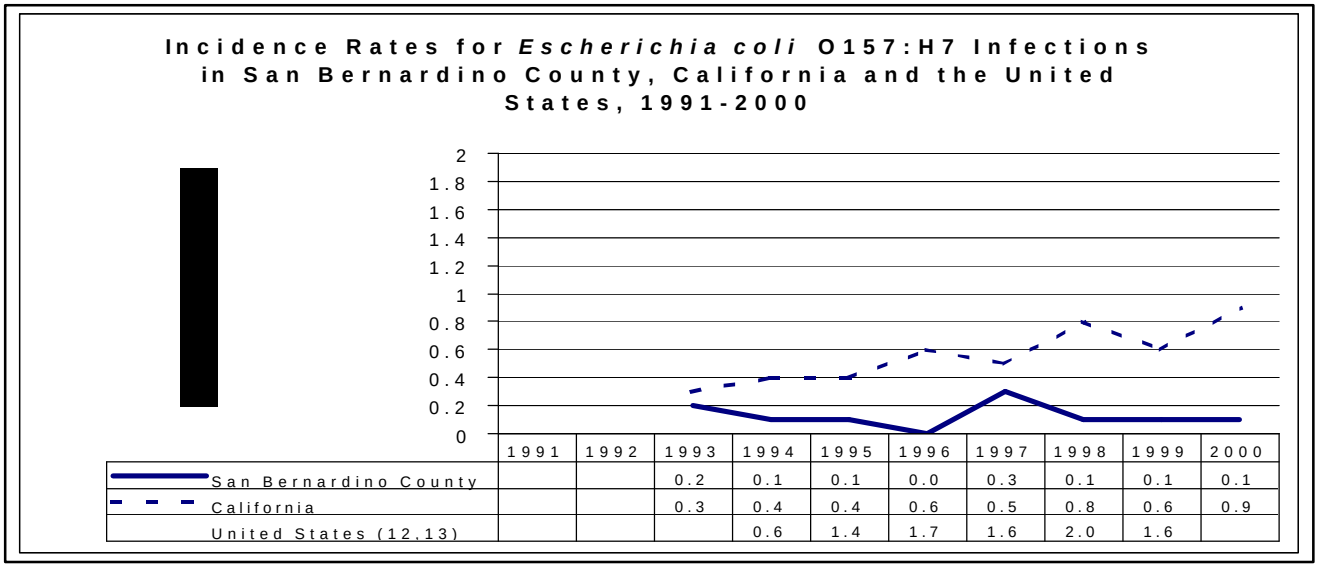
- Infection with *E. coli O157:H7* may cause a range of illness from mild to bloody diarrhea. The bacterial cytotoxins can cause a severe complication called Hemolytic Uremic Syndrome (HUS). Most common in children under 5 years of age, HUS is characterized by kidney failure.

- In 1999 the median age of US cases was 4 years. The majority (54%) of the 1999 cases in the US occurred June-September reflecting a seasonality to infection.

- The rates for both the County and California have consistently remained below those for the US and the HP 2000 Objective since becoming a nationally notifiable disease.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	0	3	1	1	1
Black	0	0	0	0	0
Hispanic	0	1	0	0	1
Asian	0	1	0	1	0
Native Am	0	0	0	0	0
Other / Not Specified	0	0	0	0	0
Age Group	0				
<1	0	0	0	0	0
1-4	0	3	0	1	1
5-9	0	1	0	1	0
10-14	0	0	0	0	0
15-19	0	1	1	0	0
20-24	0	0	0	0	0
25-29	0	0	0	0	0
30-34	0	0	0	0	0
35-39	0	0	0	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	0
55-64	0	0	0	0	1
≥65	0	0	0	0	0
Not Specified	0	0	0	0	0
Total	**0**	**5**	**1**	**2**	**2**

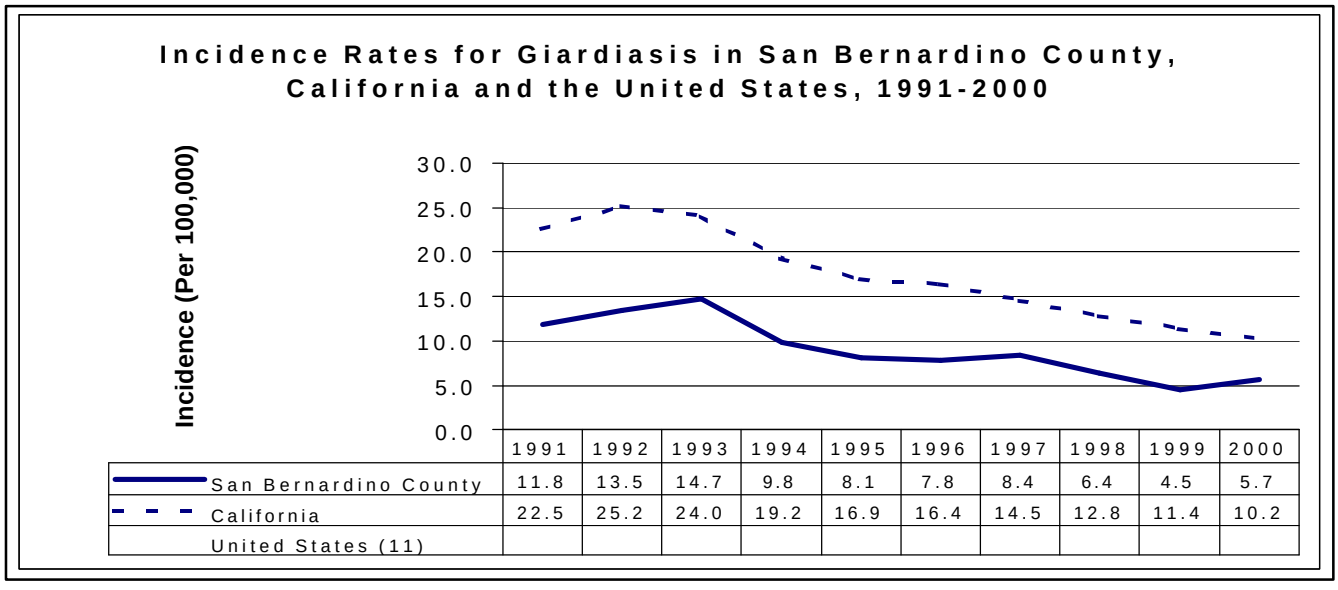
HP 2000 Objective: 4 cases per 100,000 population



Giardiasis

- Giardiasis is caused by infection with the flagellate protozoan parasite *Giardia lamblia*, and the reservoirs of infection are humans and wild and domestic animals. Diagnosis is made by identification of the protozoan in stool.
- The highest number of reported cases consistently occurred in the 1 to 4 year age group, reflecting increased daycare exposures and a greater tendency to seek medical care for illnesses in children. This is consistent with national data reporting higher numbers of cases among children under the age of 5 years.
- Infections are often asymptomatic but symptoms can include chronic diarrhea, steatorrhea, abdominal cramps, bloating, loose and pale greasy stools, fatigue and weight loss.
- Infection is associated with drinking contaminated water from wells, rivers and lakes.
- Infection has additionally been associated with having contact with children who spend time in daycare settings.
- Certain sexual behaviors may place individuals and population groups, particularly men who have sex with men, at risk for direct person-to-person transmission of *G. lamblia*.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	28	64	26	37	40
Black	4	6	3	4	2
Hispanic	44	48	42	26	20
Asian	6	3	5	2	1
Native Am	0	0	0	0	0
Other / Not Specified	42	14	30	6	35
Age Group					
<1	4	1	2	2	3
1-4	39	26	33	16	29
5-9	13	23	18	8	15
10-14	4	10	7	4	4
15-19	7	5	2	3	1
20-24	6	3	1	5	4
25-29	11	10	11	4	8
30-34	8	9	7	8	3
35-39	8	12	8	3	10
40-44	5	9	5	5	5
45-54	13	12	3	7	8
55-64	6	11	6	3	5
≥65	0	4	3	7	3
Not Specified		0	0	0	0
Total	**124**	**135**	**106**	**75**	**98**



Hepatitis A

- The highest numbers of cases are seen in older children ages 5 to 14 years and in adults 25 to 29 years of age. This may represent contact with asymptomatic children under the age of 4 years.

- Hepatitis A cases typically peak every decade. In 2000 in San Bernardino County, there were two outbreaks involving 23 cases spread from a food handler and person-to-person, respectively. An additional cluster of 21 cases spread via asymptomatic children involving a church group was identified.

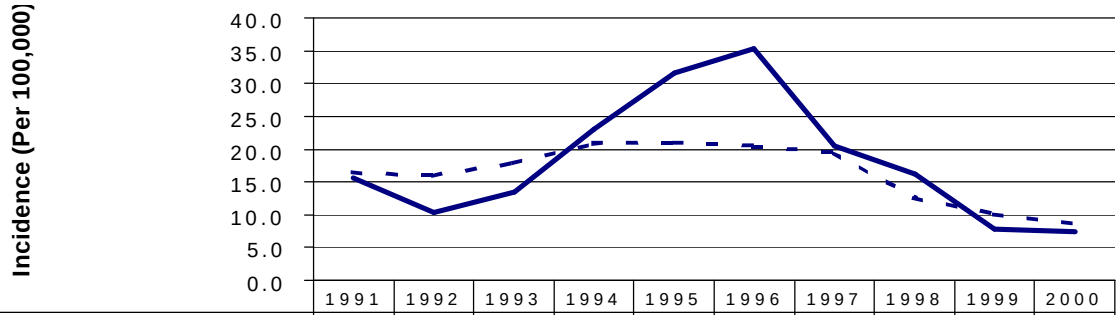
- Factors most frequently associated with hepatitis A infection in the US include, in order of estimated importance: having a household or other contact with hepatitis A, being employed at or attending a daycare, traveling internationally, being part of a known outbreak, and engaging in sex between men. Approximately half of cases have no source of infection identified. Where household contacts of adults without a known source case were tested, 25-40% of contacts under 6 years of age had serologic evidence of recent infection.

- In the US, 1999 had the lowest recorded rate of hepatitis A cases. It is not known whether this is a normal fluctuation in the number of cases or due to increased immunization rates.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	200	122	81	49	53
Black	12	13	14	3	5
Hispanic	196	142	132	67	61
Asian	3	0	1	0	1
Native Am	0	0	0	1	0
Other / Not Specified	152	56	40	12	8
Age Group					
<1	0	2	0	0	0
1-4	35	20	23	11	10
5-9	70	64	47	25	28
10-14	77	29	32	20	21
15-19	52	26	25	6	14
20-24	48	39	23	9	7
25-29	65	51	24	15	16
30-34	75	33	27	5	7
35-39	58	27	24	9	8
40-44	29	10	17	7	3
45-54	28	20	21	10	9
55-64	12	7	4	7	2
≥65	14	5	1	8	3
Not Specified	0	0	0	0	0
Total	**563**	**333**	**268**	**132**	**128**

HP 2000 Objective: 16 cases per 100,000 population

Incidence Rates for Hepatitis A in San Bernardino County, California and the United States, 1991-2000



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	15.6	10.3	13.5	23.1	31.6	35.4	20.6	16.3	7.9	7.5
California	16.4	16.0	17.9	20.9	21.1	20.5	19.5	12.5	10.1	8.6
United States (9)	9.7	9.1	9.4	10.3	12.0	11.7	11.2	8.6	6.1	

Listeriosis

- Infection in healthy individuals with *Listeria monocytogenes* is manifested by sudden mild illness with influenza-like symptoms. Individuals who are immunocompromised, pregnant, very young or very old are at increased risk for meningoencephalitis and sepsis. Infection during pregnancy may result in sepsis, meningitis or stillbirth in infants.

- Outbreaks have occurred associated with consumption of soft cheeses made from raw milk, contaminated vegetables and deli meats.

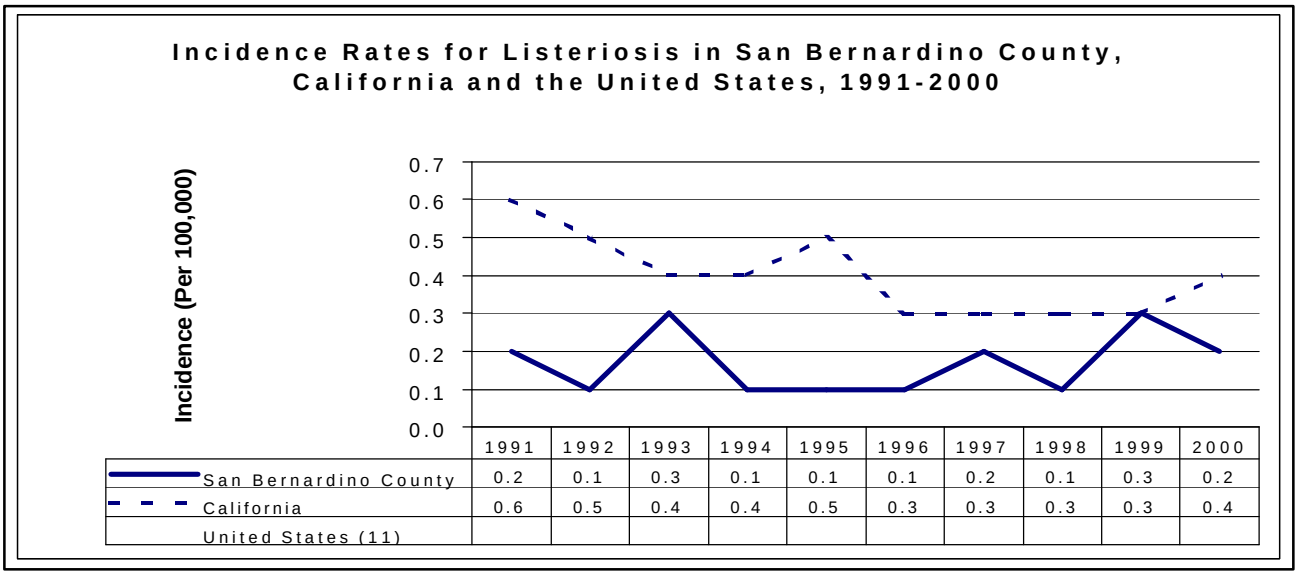
- The majority of the very small number of San Bernardino County cases has occurred in individuals who were older or immunocompromised.

- Prevention of infection involves educating high-risk individuals to thoroughly cook meats, wash vegetables before consumption and avoid unpasteurized dairy products.

- San Bernardino County has remained below the HP 2000 Objective established for listeriosis at least since 1990 and California has met this goal since 1992.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	1	3	1	5	2
Black	0	0	0	0	0
Hispanic	0	0	1	0	1
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	0	0	0	0	0
Age Group					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	0	0	0	0	0
20-24	0	0	0	0	0
25-29	0	0	0	0	0
30-34	0	0	0	0	0
35-39	0	0	0	0	1
40-44	0	0	0	1	0
45-54	0	0	0	1	1
55-64	0	0	0	0	0
≥65	1	3	2	3	1
Not Specified	0	0	0	0	0
Total	**1**	**3**	**2**	**5**	**3**

HP 2000 Objective: 0.5 cases per 100,000 population



Salmonellosis

- In addition to direct person-to-person spread, salmonellosis is transmitted by consumption of undercooked meat, chicken, eggs and unpasteurized milk. In recent years, sprouts, cantaloupes and tomatoes contaminated by animal or human waste have also caused illness. Illness is also associated with contact to reptiles, turtles, and less commonly dogs and cats.

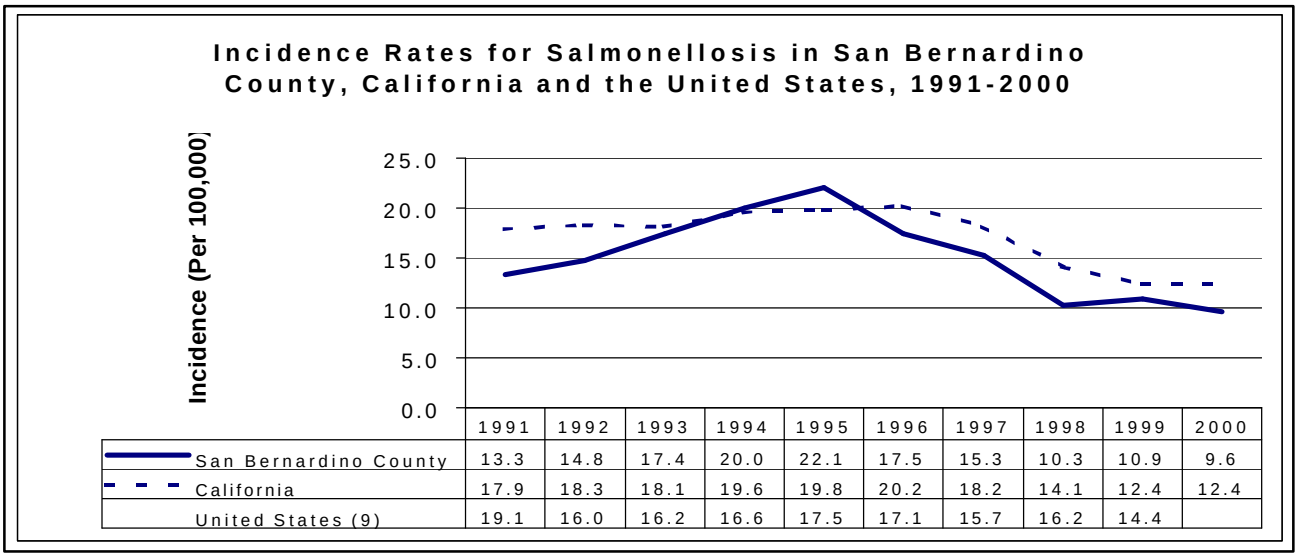
- Salmonella has caused very large outbreaks of ill individuals in the US, including 16,000 from municipal water in 1965, 197,000 from milk in 1985, and 224,000 from ice cream in 1994.

- Of the more than 2,400 serotypes of *Salmonella* spp., *S. enteritidis* increased dramatically in Southern California in 1994 resulting in increases in sporadic illnesses and outbreaks. Studies have associated *S. enteritidis* with consumption of raw or undercooked eggs, and eating at restaurants. Quality controls implemented at the ranch and consumer levels, including refrigeration of eggs, have decreased S. *enteritidis* from approximately 40% of county cases to 24%.

- Salmonella infection can cause diarrhea, headache, abdominal cramps, fever, sepsis and death in very young or old or immunocompromised individuals.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	81	90	52	77	80
Black	21	20	5	10	10
Hispanic	86	90	61	71	55
Asian	13	8	6	10	7
Native Am	0	0	0	0	0
Other / Not Specified	78	39	45	15	12
Age Group					
<1	41	24	17	22	15
1-4	46	47	29	29	36
5-9	32	18	18	21	19
10-14	19	13	9	16	12
15-19	9	7	6	6	8
20-24	10	17	8	10	13
25-29	13	16	12	10	3
30-34	14	19	14	11	6
35-39	19	23	13	15	4
40-44	15	13	7	10	6
45-54	24	20	12	11	11
55-64	16	12	12	12	13
≥65	21	18	12	10	18
Not Specified	0	0	0	0	0
Total	**279**	**247**	**169**	**183**	**164**

HP 2000 Objective: 16 cases per 100,000 population



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	13.3	14.8	17.4	20.0	22.1	17.5	15.3	10.3	10.9	9.6
California	17.9	18.3	18.1	19.6	19.8	20.2	18.2	14.1	12.4	12.4
United States (9)	19.1	16.0	16.2	16.6	17.5	17.1	15.7	16.2	14.4	

Shigellosis

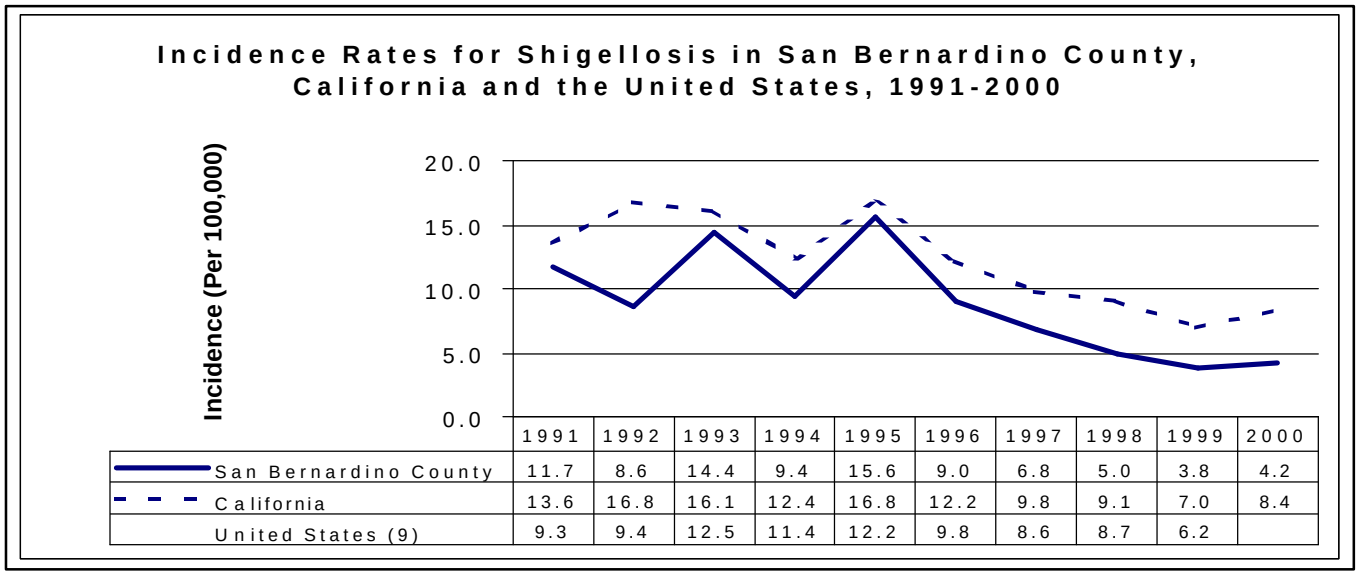
- Consumption of as few as 10 bacteria in contaminated food or water can result in infection with one of 4 species of the genus *Shigella*, of which *S. sonnei* is the most common species. Certain sexual behaviors increase the risk of infection among some population groups, including men who have sex with men, by direct person-to-person transmission.

- In 2000, San Bernardino County was part of a multistate *S. sonnei* outbreak involving illnesses in four states. Seven county residents became ill after eating a multilayer dip. In 1995, the county had an outbreak of 28 cases of *S. sonnei* in a daycare center. The bacteria spread from child to child probably by unwashed hands.

- In San Bernardino County, 244 (51.9%) of the 470 cases reported between 1996 and 2000 were in children under the age of 10 years. These data reflect in part a greater tendency for children not to wash their hands after using the restroom and to share food. Prevention of infection consequently involves washing hands well after using the restroom and changing diapers.

- Of 470 County cases during 1996-00, 280 (59.6%) were Hispanic and 88 (18.7%) were White.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	23	23	8	13	21
Black	16	2	2	2	5
Hispanic	69	79	61	43	28
Asian	0	2	0	1	1
Native Am	0	0	0	0	0
Other / Not Specified	35	4	12	4	16
Age Group					
<1	4	0	0	0	0
1-4	46	30	24	13	15
5-9	34	25	2	18	13
10-14	9	11	6	3	6
15-19	5	4	4	4	3
20-24	8	7	5	4	7
25-29	7	12	3	8	10
30-34	9	6	4	2	4
35-39	7	8	7	3	2
40-44	4	1	3	3	6
45-54	6	1	3	2	1
55-64	3	0	0	2	3
≥65	1	5	2	1	1
Not Specified	0	0	0	0	0
Total	**143**	**110**	**83**	**63**	**71**



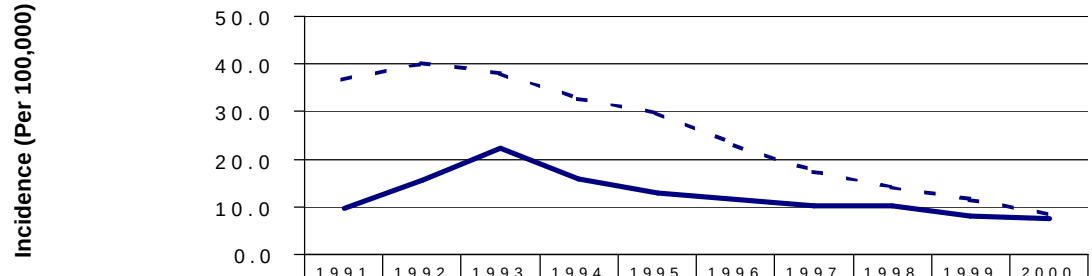
AIDS

- AIDS became a reportable condition in California in 1983. Ninety-seven percent of the 687 California cases diagnosed in 1983, and nearly 7% of the 2,839 cases diagnosed in 2000 have died (through December 2000).
- In San Bernardino County, 2,810 cases were reported during 1983-December 2000 (cumulative incidence = 164.4 cases per 100,000 population), 55% of which died during this period.
- San Bernardino County is the 4th largest local health jurisdiction in the state by population, but ranks 10th among local health jurisdictions in AIDS cases reported through December 2000.
- From 1995-00, 81% of San Bernardino County cases were male. Among males, the most frequently identified modes of transmission were having sex with another man (59.1%) and injection drug use (16.1%). The most frequently identified modes in females were heterosexual contact (42.7%) and injection drug use (29.1%).
- The declining incidence of AIDS can be attributed to increased prevention efforts, the development of better treatments for the management of HIV infection and the passage of the epidemic peak in the US.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	92	65	58	50	49
Black	61	37	45	25	41
Hispanic	61	71	51	51	37
Asian	1	4	4	1	1
Native Am	3	1	1	0	0
Other / Not Specified	0	0	7	7	0
Age Group					
<1	0	2	0	0	0
1-4	2	0	0	0	0
5-9	1	0	1	0	1
10-14	1	0	0	0	0
15-19	0	0	0	0	4
20-24	5	6	6	5	1
25-29	27	21	12	14	15
30-34	54	41	28	30	12
35-39	53	42	40	26	35
40-44	34	27	28	27	26
45-54	30	29	35	23	27
55-64	9	8	13	5	6
≥65	2	2	3	4	1
Not Specified	0	0	0	0	0
Total	**218**	**178**	**166**	**134**	**128**

HP 2000 Objective = 43 cases per 100,000 population

Incidence Rates for AIDS in San Bernardino County, California and the United States, 1991-2000



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	9.6	15.5	22.2	15.9	13.0	11.5	10.3	10.1	8.0	7.5
California	36.6	40.1	38.0	32.7	29.6	22.9	17.4	14.1	11.5	8.4
United States (9)	17.3	17.8	40.2	30.1	27.2	25.2	21.9	17.2	16.5	

Chlamydia

- Incidence of infection with *Chlamydia trachomatis* in San Bernardino County has climbed substantially since 1995. During 1996-00, incidence of reported cases jumped 80.1% resulting in a 23.1% increase in the disease rate. In 2000, it was the most frequently reported disease in San Bernardino County.

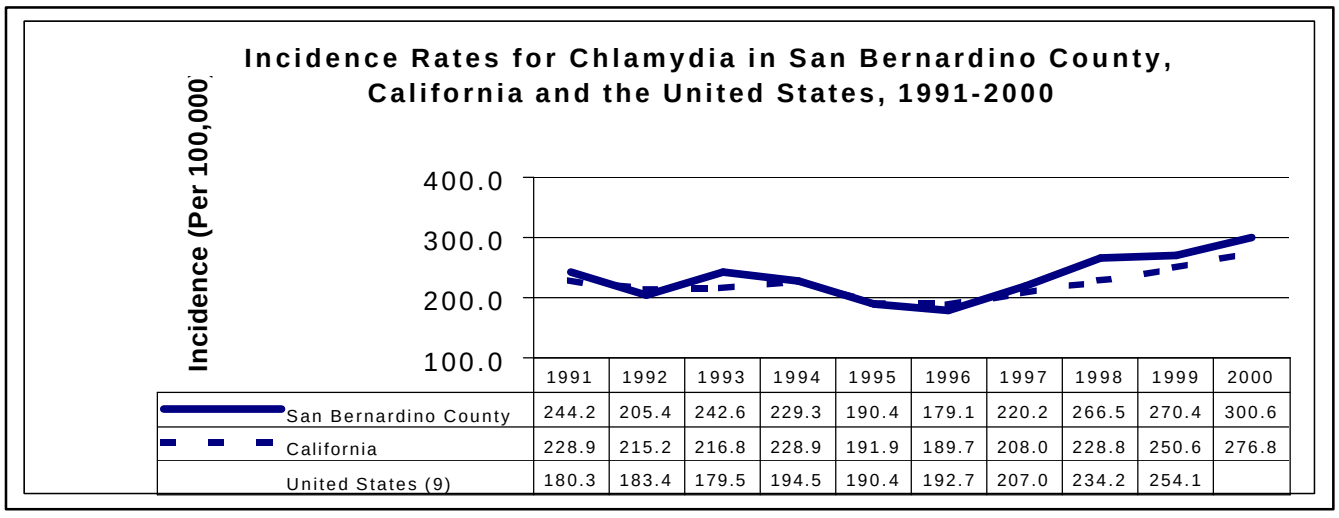
- In 1999, there were more than 650,000 cases nationally, resulting in the highest rate for chlamydial infections since cases were first voluntarily reported to the CDC in the mid-1980s. This rise reflects the expansion of chlamydial screening programs and an increased use of more sensitive tests for diagnosing chlamydial infection. In September 1997, San Bernardino County began using the ligase chain reaction (LCR) test, for the diagnosis of both chlamydial infections and gonorrhea for specimens obtained from San Bernardino County STD Clinic clients.

- The proportion of all San Bernardino County females under the age of 25 years who were diagnosed with a chlamydial infection in 2000 was 0.8%. This proportion meets the Healthy People 2000 Objective established for chlamydial infections.

- In 2000, 5 cities (Barstow, Colton, Fontana, Rialto, and San Bernardino) had a greater incidence rate than that of the county.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	347	447	507	631	903
Black	320	358	486	601	838
Hispanic	995	1438	1913	1026	1271
Asian	20	29	33	66	65
Native Am	8	12	5	10	11
Other / Not Specified	1163	1277	1442	2194	2049
Age Group					
<1	2	3	13	6	5
1-4	4	1	1	3	1
5-9	1	0	1	2	5
10-14	52	65	75	58	90
15-19	1107	1361	1652	1576	1788
20-24	918	1200	1479	1654	1825
25-29	385	493	627	673	704
30-34	170	226	277	280	362
35-39	104	117	153	148	181
40-44	50	46	48	82	94
45-54	31	36	40	33	64
55-64	2	3	10	8	9
≥65	4	10	10	4	9
Not Specified	23	0	0	1	0
Total	**2853**	**3561**	**4386**	**4528**	**5137**

HP 2000 Objective = 5% of females under age 25 years



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	244.2	205.4	242.6	229.3	190.4	179.1	220.2	266.5	270.4	300.6
California	228.9	215.2	216.8	228.9	191.9	189.7	208.0	228.8	250.6	276.8
United States (9)	180.3	183.4	179.5	194.5	190.4	192.7	207.0	234.2	254.1	

Gonorrhea

- Sexually transmitted gonococcal infections differ between males and females in course, severity, and ease of recognition. Males typically present with urethritis and females with mucopurulent cervicitis, but a small proportion of infections in males and up to 90% of infections in females may occur without symptoms.

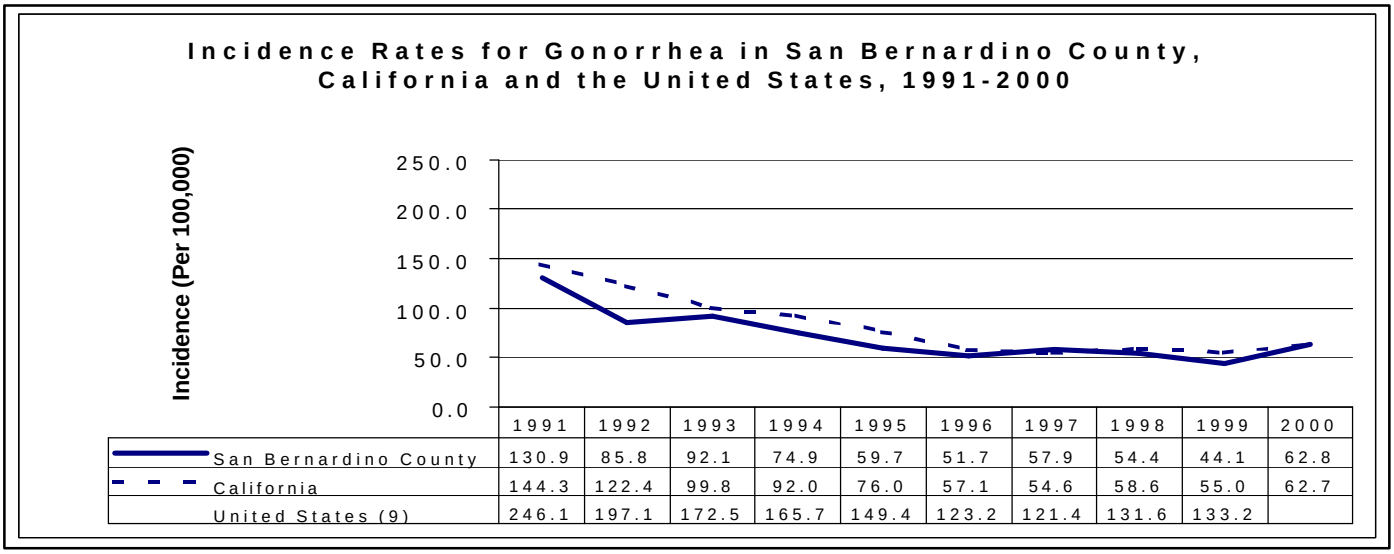
- In some areas of the US, the rate for non-gonococcal urethritis (NGU) exceeds that for gonorrhea. In San Bernardino County, however, the rate for gonorrhea is 5.8 times that for NGU, perhaps in part due to the improvements made in diagnostic technology and its increasing use in the County since 1997.

- The rate for infection with *Neisseria gonorrhoeae* among San Bernardino County residents declined 82.8% during 1989-99. Such major reductions are thought to be related to better HIV prevention practices. From 1999 to 2000, however, the number of cases in the County increased 45.4% while the rate increased 42.4%. This increase may be due to increased screening, improved sensitivity of newer diagnostic tests, or a true increase in the number of cases in some areas or population groups.

- In 2000, the highest number of cases and rate are in the 15 to 29 year old group with 75.1% of the total cases and a rate of 217.8. This age group also had a 41.1% increase in number of cases from 1999 to 2000.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	100	121	115	65	127
Black	244	213	210	227	378
Hispanic	159	229	231	75	129
Asian	0	3	1	5	7
Native Am	2	1	0	1	1
Other / Not Specified	319	369	338	365	431
Age Group					
<1	1	3	0	0	1
1-4	1	1	2	1	0
5-9	0	1	1	0	2
10-14	12	20	14	4	13
15-19	253	255	216	196	307
20-24	231	281	262	257	326
25-29	144	144	179	118	173
30-34	88	92	103	80	94
35-39	40	73	64	39	69
40-44	24	26	31	17	39
45-54	17	27	17	22	37
55-64	5	10	2	3	7
≥65	2	3	4	1	5
Not Specified	6	0	0	0	0
Total	**824**	**936**	**895**	**738**	**1073**

HP 2000 Objective: 100 cases per 100,000 popn



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	130.9	85.8	92.1	74.9	59.7	51.7	57.9	54.4	44.1	62.8
California	144.3	122.4	99.8	92.0	76.0	57.1	54.6	58.6	55.0	62.7
United States (9)	246.1	197.1	172.5	165.7	149.4	123.2	121.4	131.6	133.2	

Non-Gonococcal Urethritis

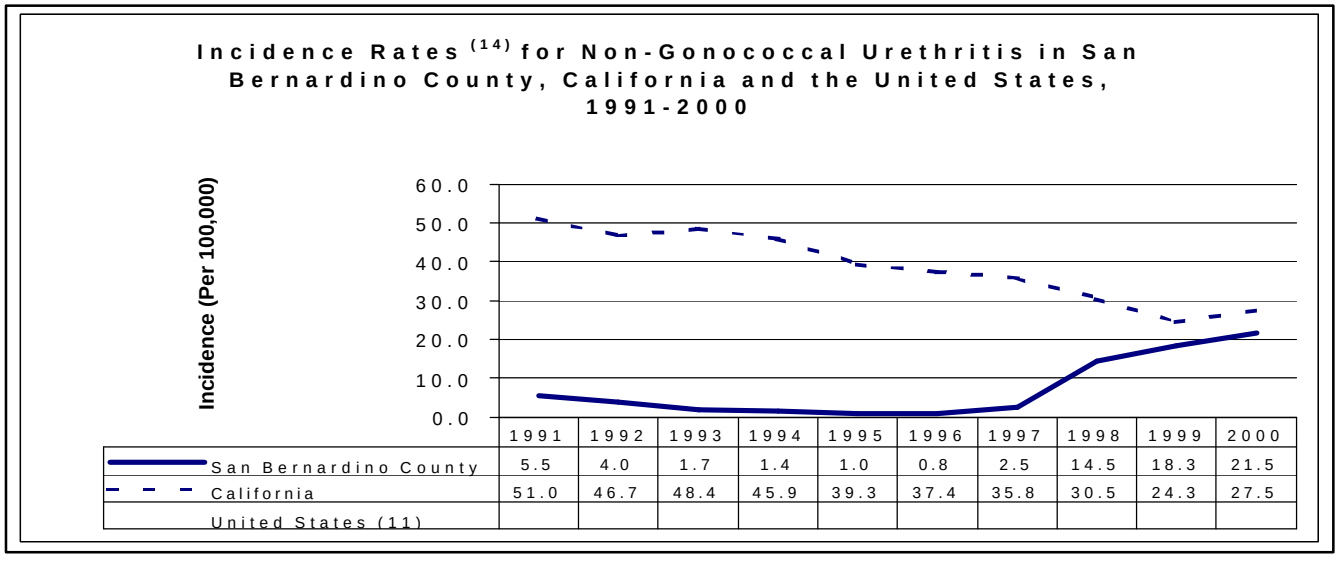
- Non-gonococcal Urethritis (NGU) is an inflammation and irritation of the urethra that cannot be attributed to a specific organism.

- Diagnosis of NGU is usually based on the failure to identify *Neisseria gonorrhoeae* in clinical specimens. Although chlamydiae are the etiologic agents most commonly isolated from cases of NGU, other agents may also cause this condition, including *Ureaplasma urealyticum* (responsible for an estimated 10-20% of cases), *Herpesvirus simplex* type 2 and *Trichomonas vaginalis* (both are rarely implicated). In general, NGU is the most common reason that males present to sexually transmitted disease clinics.

- The recorded incidence of NGU for San Bernardino County increased 30-fold between 1995 and 2000 most likely as a result of better reporting of the disease to the Department of Public Health.

- In 2000, 45.7% of the 186 reported County cases occurred in men from 20-29 years of age. The rate of NGU in Black men is 9 times greater, and the rate in Hispanic men is 1.3 times greater, than that for White men.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	1	6	29	50	49
Black	1	6	42	40	69
Hispanic	3	3	33	49	43
Asian	0	0	0	0	2
Native Am	0	0	0	1	1
Other / Not Specified	1	5	16	15	22
Age Group					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	1	0	0
10-14	0	0	0	1	0
15-19	1	3	11	11	13
20-24	2	4	30	38	47
25-29	0	1	23	36	38
30-34	1	1	13	16	26
35-39	1	1	16	20	20
40-44	0	5	5	16	14
45-54	1	5	19	14	24
55-64	0	0	0	3	4
≥65	0	0	2	0	0
Not Specified	0	0	0	0	0
Total	**6**	**20**	**120**	**155**	**186**



Pelvic Inflammatory Disease

- Pelvic Inflammatory Disease (PID) is an ascending vaginal and upper genital infection that can be caused by numerous bacteria. The most frequent agents, however, are *Neisseria gonorrhoeae* and *Chlamydia trachomatis*.

- PID is based on clinical evaluation and often goes undiagnosed. Infertility may result if therapy with appropriate antibiotics is not initiated early.

- Diagnoses of NGU and chlamydia have risen since 1997, and the local incidence of PID increased from 60 cases in 1999 to 88 cases in 2000.

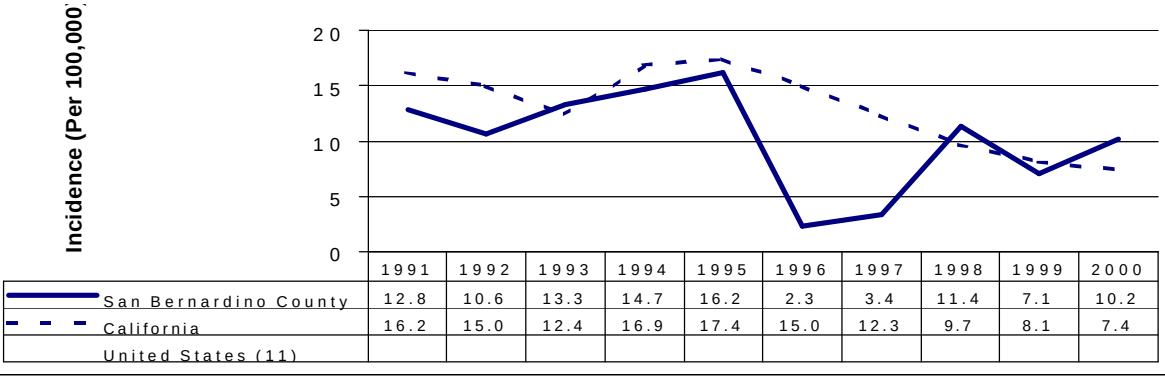
- The 10-year rate of PID peaked in 1995 and subsequently declined 7-fold in 1996 to its lowest level during the 10-year period. In 2000, the incidence rate rose to 10.2 cases per 100,000 population, of which 88.6% occurred in women between 15 and 39 years of age.

- Although it is not possible to measure the rate of hospitalizations or the incidence of physician visits made for PID, the rate of reported cases of PID for women aged 15-44 years in San Bernardino County in 2000 was 22.3 cases per 100,000 population.

	San Bernardino County				
	1996	**1997**	**1998**	**1999**	**2000**
Race/Ethnicity					
White	5	9	13	7	8
Black	6	3	10	3	3
Hispanic	5	10	26	8	15
Asian	1	0	0	0	1
Native Am	0	0	0	0	0
Other / Not Specified	1	5	45	42	61
Age Group					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	2	0	0
15-19	2	9	26	17	12
20-24	4	4	26	18	19
25-29	7	5	19	10	16
30-34	0	2	9	5	17
35-39	3	4	7	3	14
40-44	1	2	3	4	6
45-54	1	0	2	3	4
55-64	0	1	0	0	0
≥65	0	0	0	0	0
Not Specified	0	0	0	0	0
Total	**18**	**27**	**94**	**60**	**88**

HP 2000 Objective = (1) 100 hospitalizations per 100,000 women between 15 and 44 years of age; and (2) 290,000 initial physician visits for PID

Incidence Rates [15] for Pelvic Inflammatory Disease in San Bernardino County, California and the United States, 1991-2000



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	12.8	10.6	13.3	14.7	16.2	2.3	3.4	11.4	7.1	10.2
California	16.2	15.0	12.4	16.9	17.4	15.0	12.3	9.7	8.1	7.4
United States (11)										

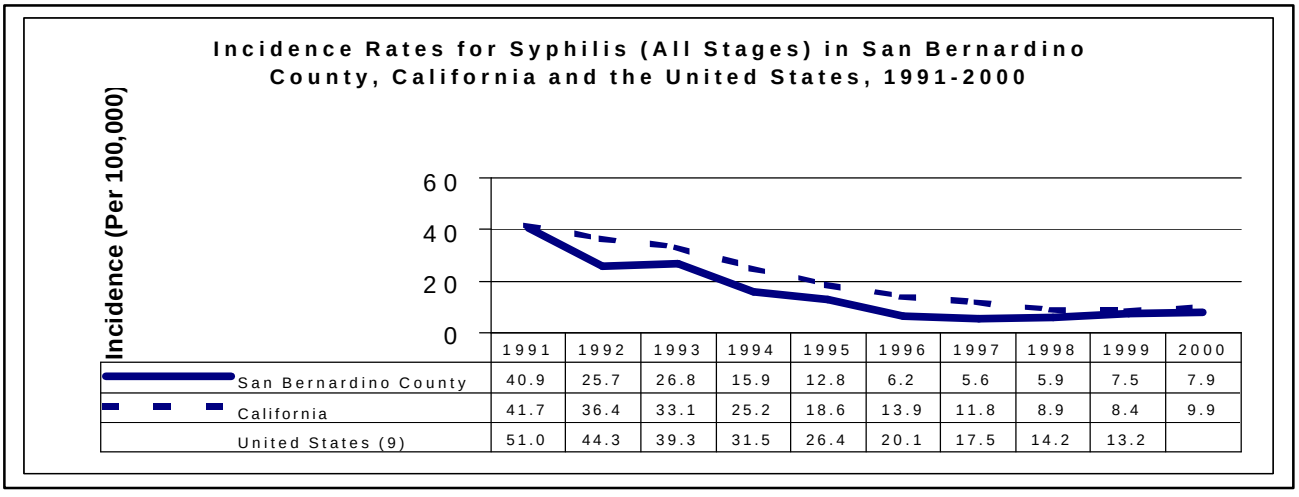
Syphilis, All Stages

- Syphilis, caused by the spirochete *Treponema pallidum*, is an acute and chronic disease characterized by a primary lesion, a secondary eruption involving skin and mucous membranes, long periods of latency, and late lesions of skin, bone, viscera, the central nervous and cardiovascular systems.

- Great progress has been made in reducing the occurrence of syphilis in San Bernardino County during the 1990s. The rate of syphilis at all stages decreased 87.5% from 1990 to 2000 to a level well below the national average. This reduction is presumably due to the effects of sexual behavior changes related to concern about or fear of HIV transmission. Smaller increases in the numbers of total cases have occurred in recent years due to increases in numbers of late latent and latent stage cases identified.

- Six cases of congenital syphilis were reported in San Bernardino County during the period 1996-00. Incidence of congenital syphilis peaked during the 1990s in 1993 at 15 cases and has since declined substantially. Only 2 cases were reported since 1998. One was reported in 2000.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	7	15	12	26	15
Black	30	15	21	30	29
Hispanic	41	49	41	38	46
Asian	3	2	3	2	4
Native Am	0	1	0	0	1
Other / Not Specified	18	9	18	29	41
Age Group					
<1	1	0	3	1	1
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	1	0	0	0
15-19	5	4	6	2	4
20-24	14	12	4	7	12
25-29	19	10	19	11	13
30-34	20	15	12	26	23
35-39	10	16	11	35	31
40-44	12	8	13	13	17
45-54	11	12	17	18	19
55-64	2	6	7	8	9
≥65	5	7	3	4	7
Not Specified	0	0	0	0	0
Total	**99**	**91**	**95**	**125**	**136**



Syphilis, Primary/Secondary

- A person with syphilis is communicable when lesions of primary and secondary syphilis are present. In addition to sexual contact, syphilis may be spread from a woman to her unborn child. The end of infectious early syphilis has been defined in the US as one year following infection. Lesions associated with syphilis infection may increase the likelihood of transmission of HIV during sexual encounters.

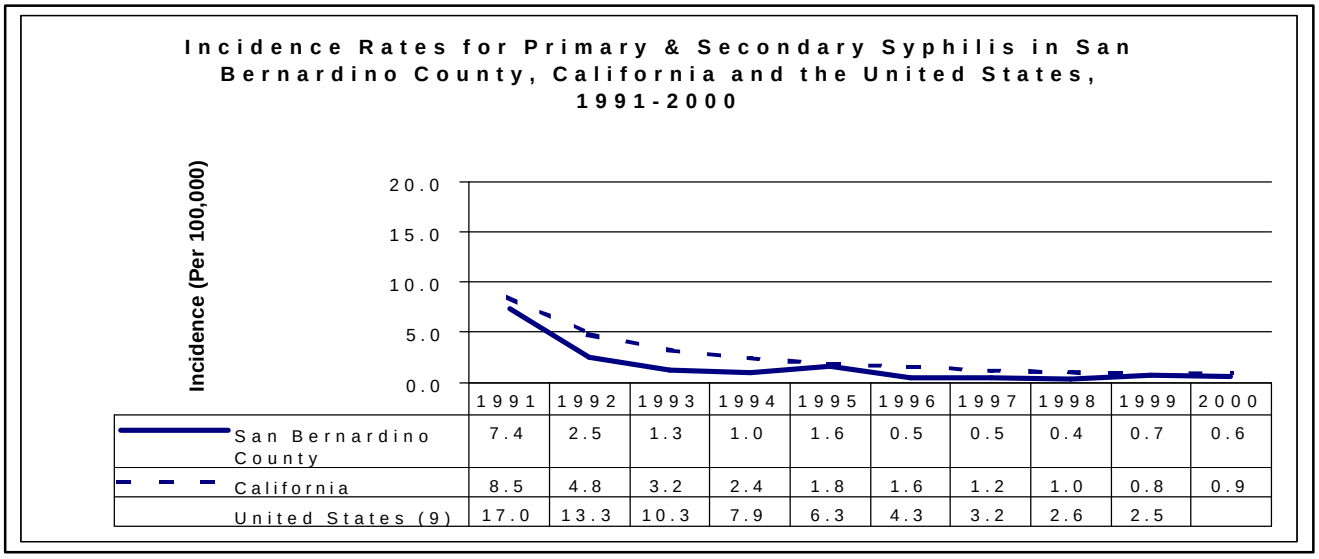
- During 1990-98, the US rate for primary and secondary syphilis declined 86% to the lowest level since reporting began in 1941. San Bernardino County has mirrored such progress.

- Approximately 10% of syphilis cases (all stages) reported in San Bernardino County during 1999 were diagnosed in the primary or secondary stages. Of these, 5 (41.7%) were in the primary stage.

- Of San Bernardino County cases reported in 2000, 50% were Black and 70% were female. The proportion of White cases declined the most among race groups from 62.5% in 1996 to 20% in 2000, while the proportion of Black cases had the greatest increase from 25% in 1996 to 50% in 2000.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	5	2	1	8	2
Black	2	1	4	1	5
Hispanic	1	4	2	1	2
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	0	1	0	2	1
Age Group					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	1	0	0	0
15-19	1	0	1	1	1
20-24	0	1	1	3	1
25-29	2	2	2	1	2
30-34	1	1	2	1	1
35-39	1	1	0	2	4
40-44	3	1	1	4	0
45-54	0	1	0	0	1
55-64	0	0	0	0	0
≥65	0	0	0	0	0
Not Specified	0	0	0	0	0
Total	**8**	**8**	**7**	**12**	**10**

HP 2000 Objective: 4 cases per 100,000 popn



Syphilis, Early Latent

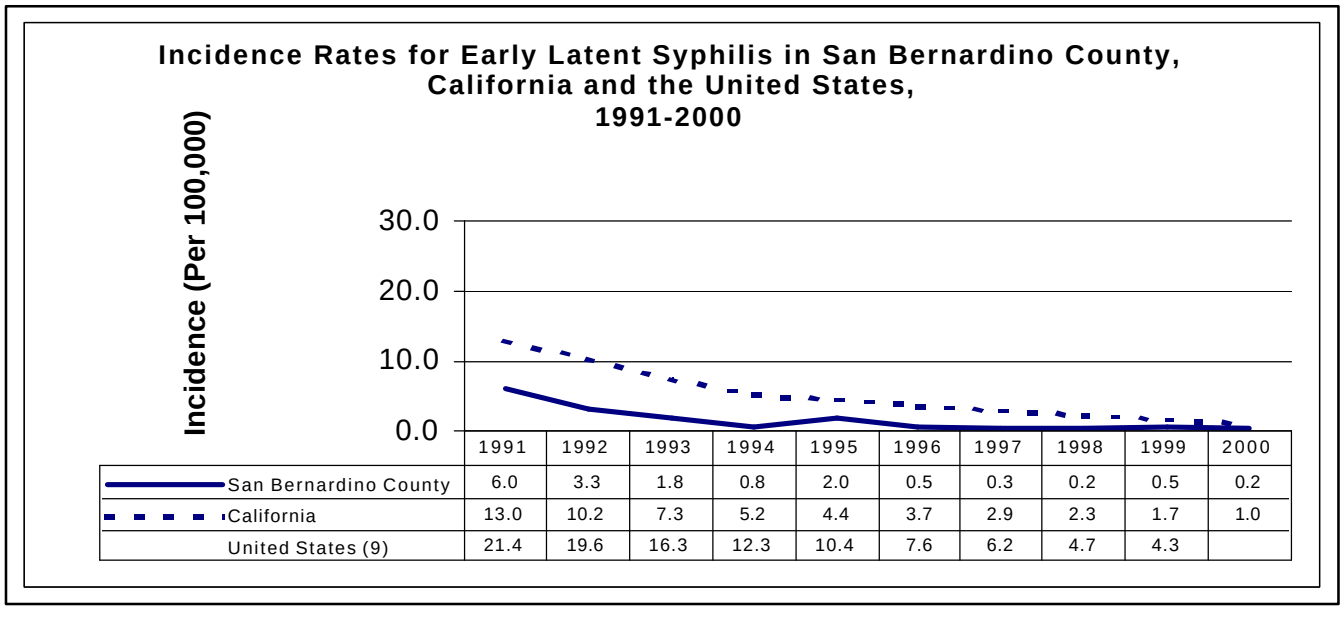
- Although acute syphilitic meningitis may occur at any time in secondary or early latent syphilis, death or serious disability rarely occurs during early stages of latency.

- Incidence of early latent syphilis in San Bernardino County rose 7-fold from 21 cases in 1982 to peak at 154 cases in 1990. It has since plummeted to fewer than 5 cases in 2000. The most notable decline occurred in Black and Hispanic adults in the age group 20-29 years.

- In San Bernardino County, the rate of early latent syphilis declined 98.1% from 10.7 cases per 100,000 people in 1990 to 0.2 cases per 100,000 people in 2000. A similar trend was observed for the California rate.

- During the period 1996-2000, 53.3% of the cases reported in San Bernardino County were male, 76.7% were aged 20-34 years, and 46.7% were Hispanic. Incidence reduced most among men aged 20-34 years during this period.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	1	2	1	2	1
Black	2	0	1	0	1
Hispanic	4	3	2	3	2
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	1	0	0	4	0
Age Group					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	0	1	0	0	0
20-24	2	0	0	1	0
25-29	3	1	2	1	3
30-34	2	2	1	5	0
35-39	0	0	0	2	1
40-44	1	0	1	0	0
45-54	0	0	0	0	0
55-64	0	1	0	0	0
≥65	0	0	0	0	0
Not Specified	0	0	0	0	0
Total	**8**	**5**	**4**	**9**	**4**

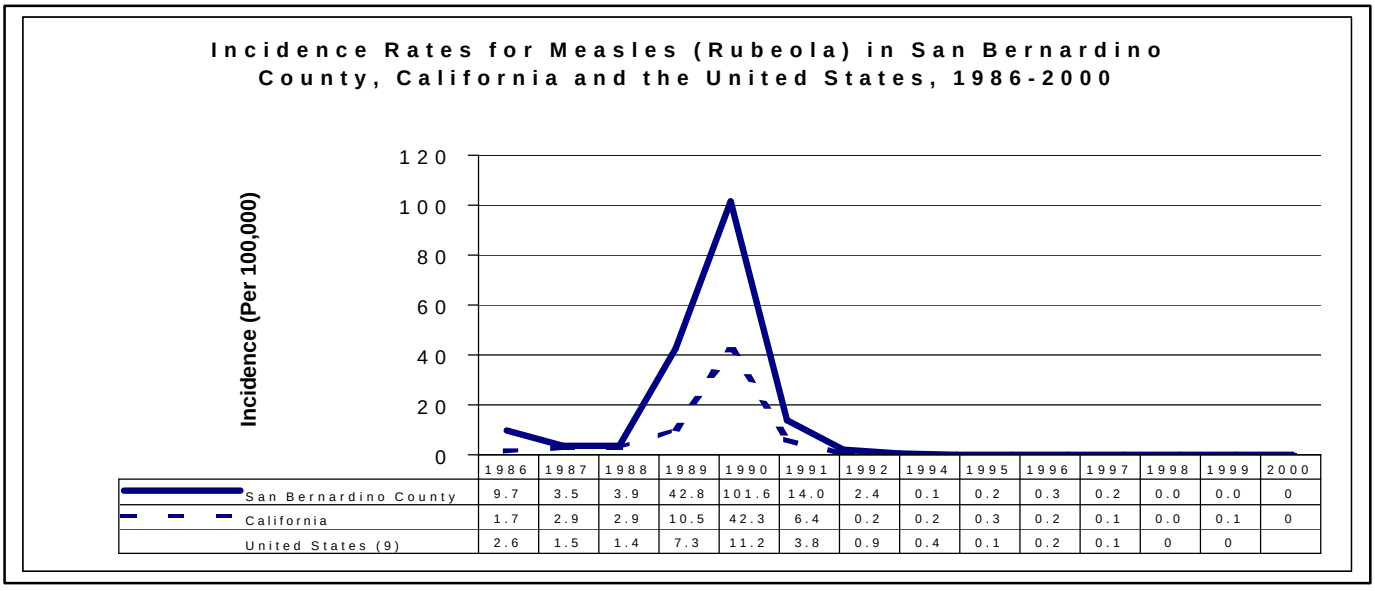


Measles (Rubeola)

- Measles is one of the most highly communicable infectious diseases known.
- In San Bernardino County, and throughout the US, a measles epidemic occurred during 1989-91. More than 55,000 cases were reported nationally and 166 deaths were associated with these illnesses. In 1990, the peak year of the outbreak, the incidence rate of infection in San Bernardino County was 4 times that for California and 6 times that for the US. The majority of outbreak cases occurred in unimmunized children. Of cases reported in this county, 55% were not immunized against measles.
- In 1999 the Centers for Disease Control and Prevention (CDC) concluded that measles is not endemic and that outbreaks in the US were associated with imported cases of measles. Of the 100 US cases reported in 1999, 66 were imported or the result of exposure to an imported case.
- The San Bernardino County Immunization Program implemented a County-wide immunization registry in 1994 that allows it to more accurately track immunization levels. A recent retrospective survey indicated that the proportion of all children 24 months of age immunized with 4 DTP, 3 Polio and 1 MMR increased from 42.9% in 1996 (births in 1991-92) to 69.5% in 2000 (births in 1994-95).

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	3	2	0	0	0
Black	0	0	0	0	0
Hispanic	2	1	0	0	0
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	0	0	0	0	0
Age Group					
<1	2	0	0	0	0
1-4	0	0	0	0	0
5-9	0	2	0	0	0
10-14	0	0	0	0	0
15-19	0	0	0	0	0
20-24	0	0	0	0	0
25-29	1	0	0	0	0
30-34	1	1	0	0	0
35-39	1	0	0	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	0
55-64	0	0	0	0	0
≥65	0	0	0	0	0
Not Specified	0	0	0	0	0
Total	**5**	**3**	**0**	**0**	**0**

HP 2000 Objective = 0 cases



Meningococcal Disease

- Meningococcal disease is caused by *Neisseria meningitidis*. Up to 10% of certain world populations may asymptomatically carry the bacteria nasopharyngeally. A very small proportion of those colonized progress to invasive disease.

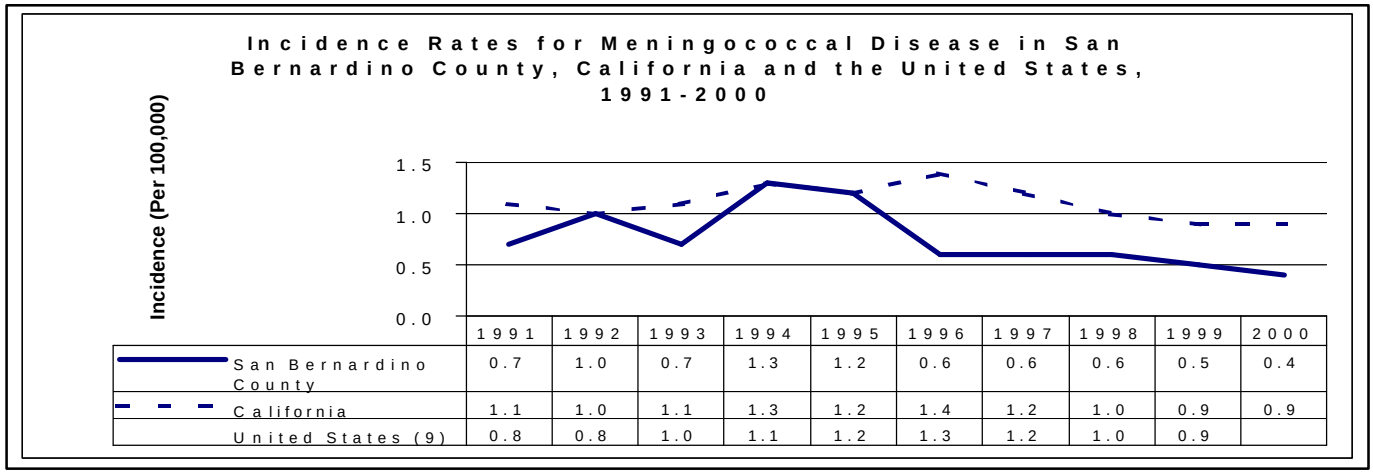
- *N. meningitidis* has become the leading cause of bacterial meningitis in the US since the widespread use of the Hib vaccine in early childhood and the subsequent decline in meningitis caused by *Haemophilus influenzae* type b.

- Meningococcal disease is primarily a disease of small children. However, it also occurs in older children and young adults, particularly when brought together under crowded living conditions such as in barracks and college dormitories. In 2000, 5 of 7 (71.4%) San Bernardino County cases occurred in those under 20 years of age.

- With earlier diagnosis and modern therapy, case-fatality rates have declined nationally from previous levels greater than 50%. In San Bernardino County, 2 deaths occurred in 1999-2000 resulting in a case-fatality rate of 13.3%.

- Of the serologically groupable cases reported to San Bernardino County in 1999 and 2000, the majority (7 of 11, 64%) were group Y, 2 were group B, 1 was group A and 1 was group C. Group Y accounts for most endemic cases in the US, and may be associated with pneumonia.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	4	0	1	4	3
Black	1	4	0	3	1
Hispanic	3	4	7	0	2
Asian	0	0	0	0	1
Native Am	0	0	0	0	0
Other / Not Specified	1	2	1	1	0
Age Group					
<1	0	3	5	2	0
1-4	2	0	1	1	3
5-9	2	3	2	1	0
10-14	1	0	0	1	1
15-19	2	0	0	2	1
20-24	0	0	1	0	2
25-29	0	2	0	0	0
30-34	0	0	0	0	0
35-39	0	0	0	0	0
40-44	0	1	0	0	0
45-54	1	0	0	0	0
55-64	0	0	0	1	0
≥65	1	1	0	0	0
Not Specified	0	0	0	0	0
Total	**9**	**10**	**9**	**8**	**7**



Meningitis, Viral

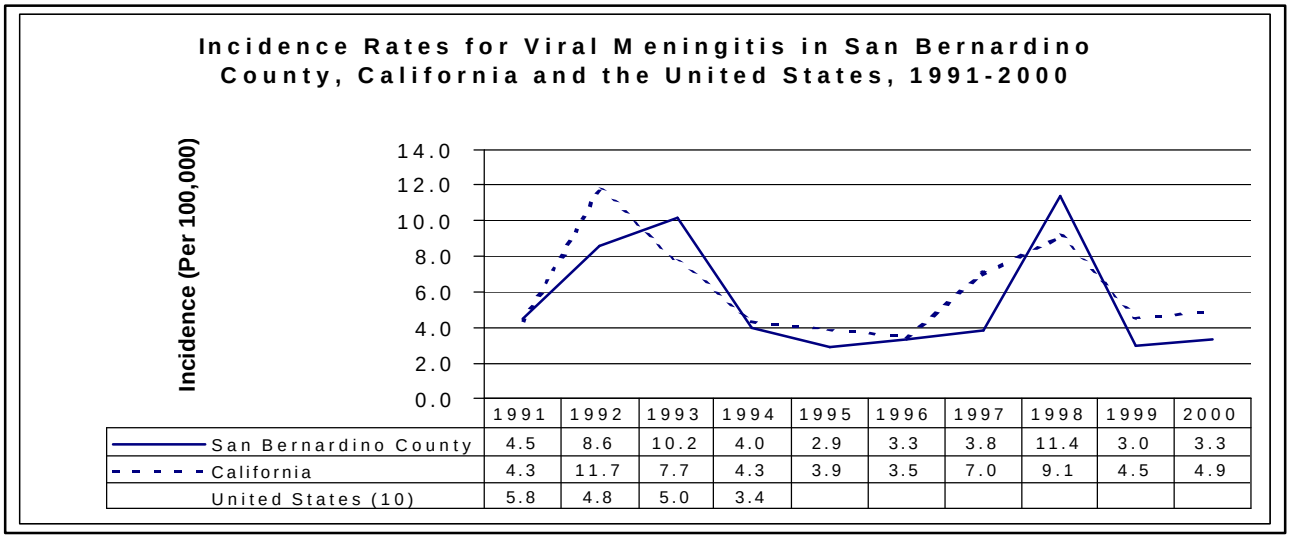
- Viral Meningitis is a fairly common and rarely serious illness in the US. A number of viruses are implicated as etiologic agents of viral meningitis, including enteroviruses, coxsackieviruses, echoviruses and varicella. Under optimal conditions, specific identification can be made in about half the cases using serologic and isolation techniques.

- San Bernardino County experienced a dramatic 3-fold rise in the number of cases between 1997 and 1998. The burden of disease during the 1998 epidemic was not uniform in all race groups. In fact, the proportion of cases that were Hispanic climbed from 29.0% in 1997 to 44.9% in 1998, while the proportion of cases occurring in the other racial/ethnic groups declined or remained virtually unchanged. In 2000, the proportion of Hispanics has declined to 23.2%, and Whites had the highest proportion of disease (44.6%).

- In 2000, the highest incidence rates in San Bernardino County were among children under 14 years of age. There were 28 cases in this age group and an incidence rate of 5.9 per 100,000 people, an increase from the county rate of 3.3 per 100,000.

- Viral Meningitis is a notifiable disease in California, but not in the US since 1995.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	9	31	51	21	25
Black	7	6	12	5	6
Hispanic	19	18	84	16	18
Asian	1	0	5	2	4
Native Am	0	0	0	0	0
Other / Not Specified	17	7	35	6	3
Age Group					
<1	9	8	20	8	7
1-4	4	4	18	4	5
5-9	8	9	54	7	8
10-14	3	6	25	6	8
15-19	7	4	12	4	4
20-24	1	3	7	2	5
25-29	6	2	16	5	6
30-34	9	5	7	3	4
35-39	5	4	7	4	5
40-44	0	2	7	2	2
45-54	1	9	9	5	2
55-64	0	3	1	0	0
≥65	0	3	4	0	0
Not Specified	0	0	0	0	0
Total	**53**	**62**	**187**	**50**	**56**



Mumps

- The live-virus mumps vaccine was first licensed for use in the US in 1967. Since then, the incidence of mumps nationally has declined dramatically from 152,209 cases reported in 1968, the initial year of national mumps surveillance, to a mere 387 cases reported 31 years later.

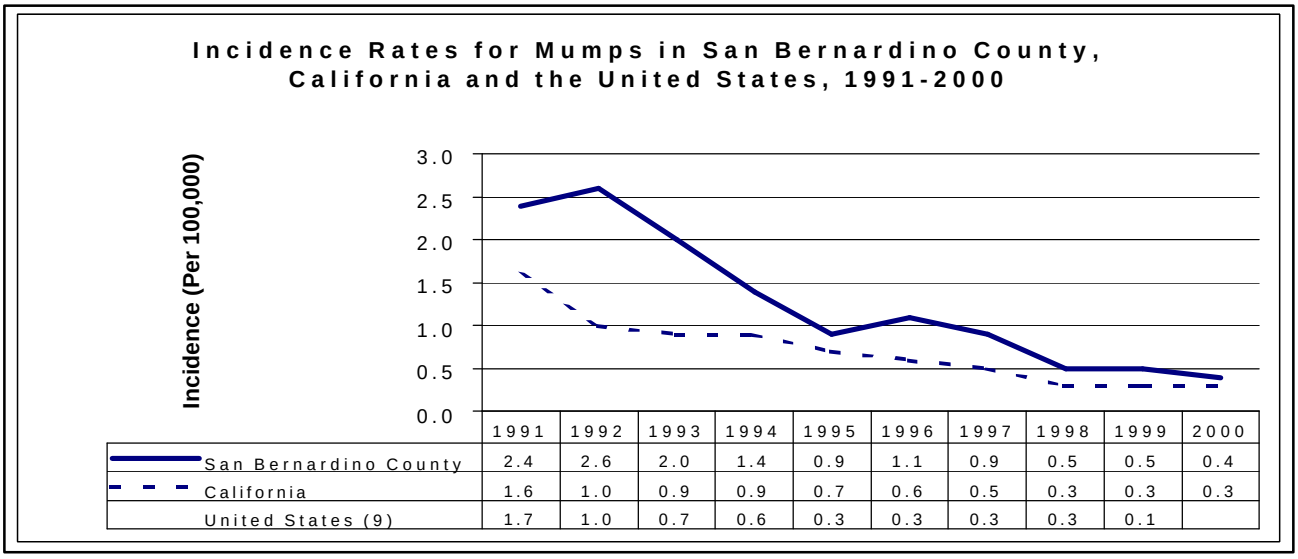
- Two doses of the combined MMR vaccine are recommended to ensure immunity to all three viruses that respectively cause measles, mumps and rubella, although the second dose is given primarily to increase protection against measles. The first dose should be administered at 12-15 months of age and the second dose prior to kindergarten entrance at 4-6 years of age.

- Mumps occurs primarily in school-aged children. In San Bernardino County, 38 cases (71.7%) were 14 years of age or younger during 1996-2000.

- San Bernardino County has made progress in the last 11 years in reducing the incidence of mumps, approaching the rates observed for California and the US. The excess in rates between San Bernardino County and California decreased from 1.4 cases per 100,000 population in 1990 to 0.1 cases per 100,000 population in 2000.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	3	2	1	1	4
Black	1	1	0	0	0
Hispanic	8	6	4	6	2
Asian	0	2	0	1	0
Native Am	0	0	0	0	0
Other / Not Specified	5	3	3	0	0
Age Group					
<1	0	0	0	0	0
1-4	1	3	1	0	0
5-9	6	3	4	3	3
10-14	7	1	2	4	0
15-19	0	0	0	0	0
20-24	1	1	0	0	1
25-29	0	1	0	0	0
30-34	1	1	0	0	0
35-39	1	3	0	0	0
40-44	0	0	1	0	1
45-54	0	1	0	1	1
55-64	0	0	0	0	0
≥65	0	0	0	0	0
Not Specified	0	0	0	0	0
Total	**17**	**14**	**8**	**8**	**6**

HP 2000 Objective: 500 cases per year



Pertussis

- Pertussis, also known as whooping cough because of the classic paroxysmal pattern of coughing and wheezing observed in patients, is caused by the bacterium *Bordatella pertussis*.

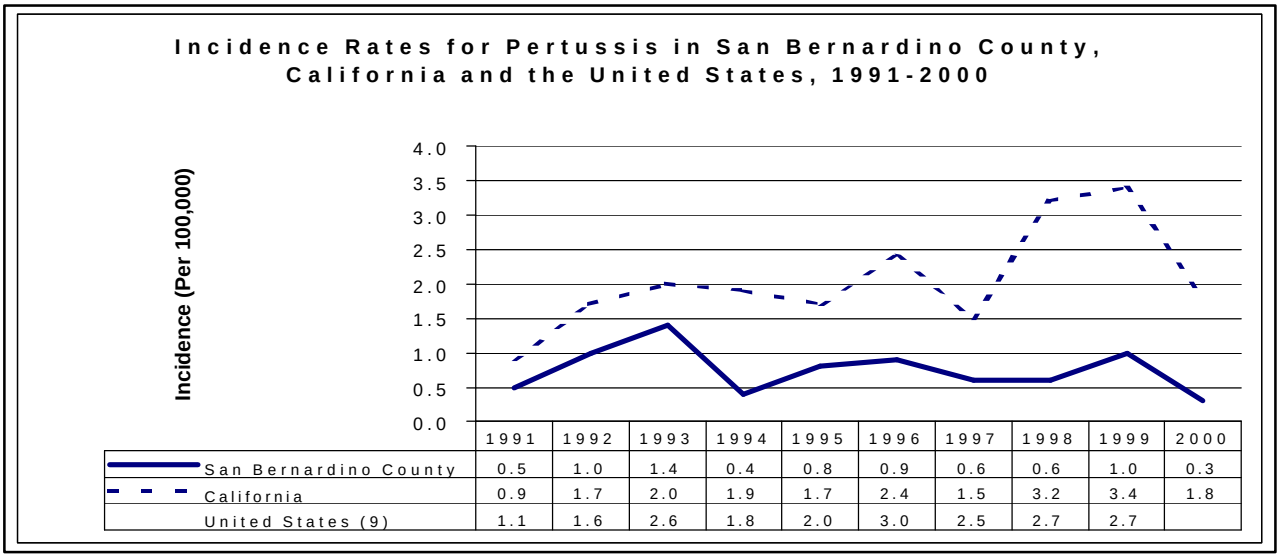
- Pertussis is an endemic disease in the US with outbreaks occurring periodically. Nationally an overall decrease in incidence has been observed over the past several decades, primarily in communities with a well-established immunization program. However, recently reported cases have increased. In the US, pertussis increased from 2,719 cases in 1991 to 7,288 cases in 1999. The reason for this increase is unknown, but may be due to higher rates of infection, increased awareness of pertussis among health care workers, more sensitive diagnostic tests, and better reporting of cases.

- While San Bernardino County remained below the US rate during the 1990s, California recorded a rate greater than that for the US in 5 of the 9 years from 1992-99 (1992, 1994, 1998, and 1999).

- During 1996-2000, most county (41 of 54, 75.9%) cases were reported in children under one year of age.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	7	2	4	3	3
Black	2	1	1	0	0
Hispanic	4	4	4	12	2
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	1	2	1	1	0
Age Group					
<1	9	6	8	14	4
1-4	3	3	1	0	1
5-9	0	0	0	1	0
10-14	2	0	1	1	0
15-19	0	0	0	0	0
20-24	0	0	0	0	0
25-29	0	0	0	0	0
30-34	0	0	0	0	0
35-39	0	0	0	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	0
55-64	0	0	0	0	0
≥65	0	0	0	0	0
Not Specified	0	0	0	0	0
Total	**14**	**9**	**10**	**16**	**5**

HP 2000 Objective: 1,000 cases per year



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	0.5	1.0	1.4	0.4	0.8	0.9	0.6	0.6	1.0	0.3
California	0.9	1.7	2.0	1.9	1.7	2.4	1.5	3.2	3.4	1.8
United States (9)	1.1	1.6	2.6	1.8	2.0	3.0	2.5	2.7	2.7	

Rubella

- The prevention of rubella, also called German measles, in children and adults by immunization is important particularly because of the risk of developmental anomalies in unborn children to mothers with the disease. Congenital rubella syndrome (CRS) is detected in some 90% of infants born to mothers infected with rubella during the first trimester of pregnancy. The risk for CRS declines when exposure occurs later in the pregnancy.

- Up to 50% of rubella infections may be subclinical.

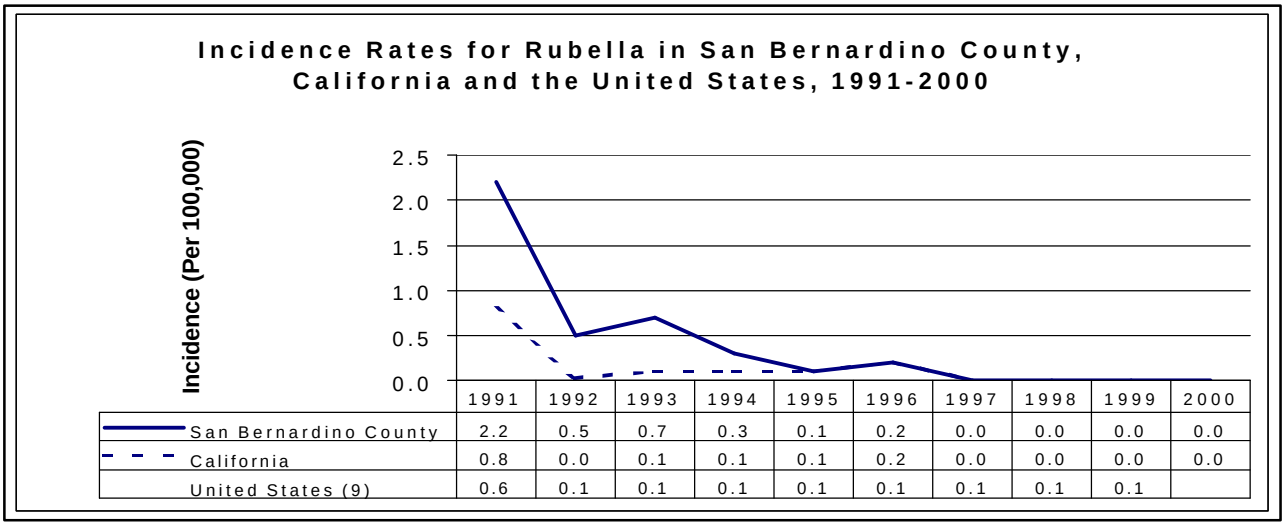
- Rubella must be clinically differentiated from measles, scarlet fever and other rash illnesses and such clinical diagnoses may be inaccurate. The only reliable means for detecting acute infection is by laboratory confirmation.

- The incidence of rubella increased substantially during the measles epidemic during 1989-91 in association with children not immunized with the MMR vaccine.

- Since 1997, most cases in the US have been in countries where rubella immunization programs are absent, or have recently been implemented.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnic					
White	2	0	0	0	0
Black	0	0	0	0	0
Hispanic	0	0	0	0	0
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	1	0	0	0	0
Age Group					
<1	0	0	0	0	0
1-4	2	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	1	0	0	0	0
20-24	0	0	0	0	0
25-29	0	0	0	0	0
30-34	0	0	0	0	0
35-39	0	0	0	0	0
40-44	0	0	0	0	0
45-54	0	0	0	0	0
55-64	0	0	0	0	0
≥65	0	0	0	0	0
Not Specified	0	0	0	0	0
Total	**3**	**0**	**0**	**0**	**0**

HP 2000 Objective = 0 cases



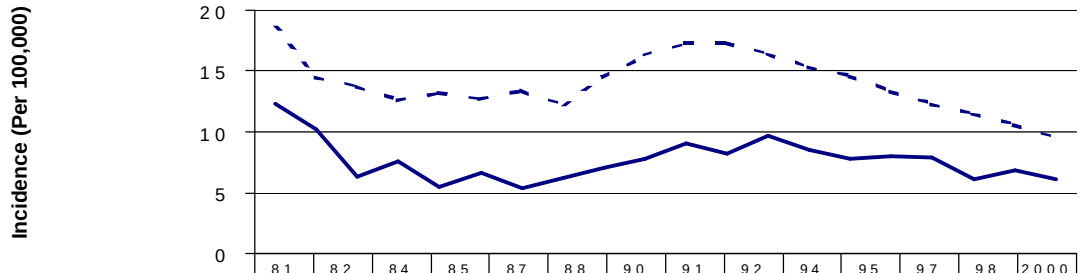
Tuberculosis

- Although TB may occur anywhere in the body, 756 (77.1%) of 981 county cases reported from 1993-2000 were pulmonary. Of these, 43 (4.4%) had TB disease in at least one other site. Only pulmonary and laryngeal TB is considered communicable.
- Incidence peaked in 1993 at 151 cases, a 136% increase from 64 cases reported in 1987, when the TB rate was lowest. Between 1993 and 2000, incidence declined 31%.
- The burden of TB is greatest in racial and ethnic minority populations. In 2000, non-Hispanic Whites made up 53% of the total population but accounted for 18% of county TB cases. Conversely, Asians accounted for 5% of the total population and 24% of TB cases.
- Increasingly, the local burden of TB is attributable to imported latent TB infection and TB disease. The proportion of cases born outside the US rose from 33% in 1993 to 57% in 2000.
- Directly Observed Therapy (DOT) is the most effective means for ensuring completion of therapy and preventing drug resistance. Of 1998 cases, 68% were initiated on DOT compared with 33% of 1993 cases.
- The rate for the county has been below the California Year 2000 Objective of 10 cases per 100,000 population since since 1983.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	24	22	18	15	18
Black	14	12	13	17	13
Hispanic	60	60	44	45	48
Asian	28	33	26	36	25
Native Am	2	1	0	0	0
Other / Not Specified	0	0	0	0	0
Age Group					
<1	3	6	0	1	1
1-4	13	7	7	4	2
5-9	8	3	1	2	2
10-14	3	3	2	0	1
15-19	4	6	5	3	3
20-24	5	10	7	3	8
25-29	8	10	5	10	7
30-34	14	11	11	8	8
35-39	11	10	9	7	9
40-44	11	14	9	10	7
45-54	16	14	13	19	14
55-64	13	11	9	18	13
≥65	19	23	23	28	29
Not Specified	0	0	0	0	0
Total	**128**	**128**	**101**	**113**	**104**

HP 2000 Objective: 3.5 cases per 100,000 population

Incidence Rates for Tuberculosis in San Bernardino County, California and the United States, 1980-2000



	81	82	84	85	87	88	90	91	92	94	95	97	98	2000
San Bernardino County	12.3	10.2	7.6	5.5	5.4	6.2	7.8	9.1	8.2	8.5	7.8	7.9	6.1	6.1
California	18.6	14.5	12.6	13.2	13.4	12.2	16.3	17.3	17.3	15.3	14.6	12.3	11.5	9.5
United States (9)	11.9	11.0	9.4	9.3	9.3	9.1	10.3	10.4	10.5	9.4	8.7	7.4	6.8	

Coccidioidomycosis

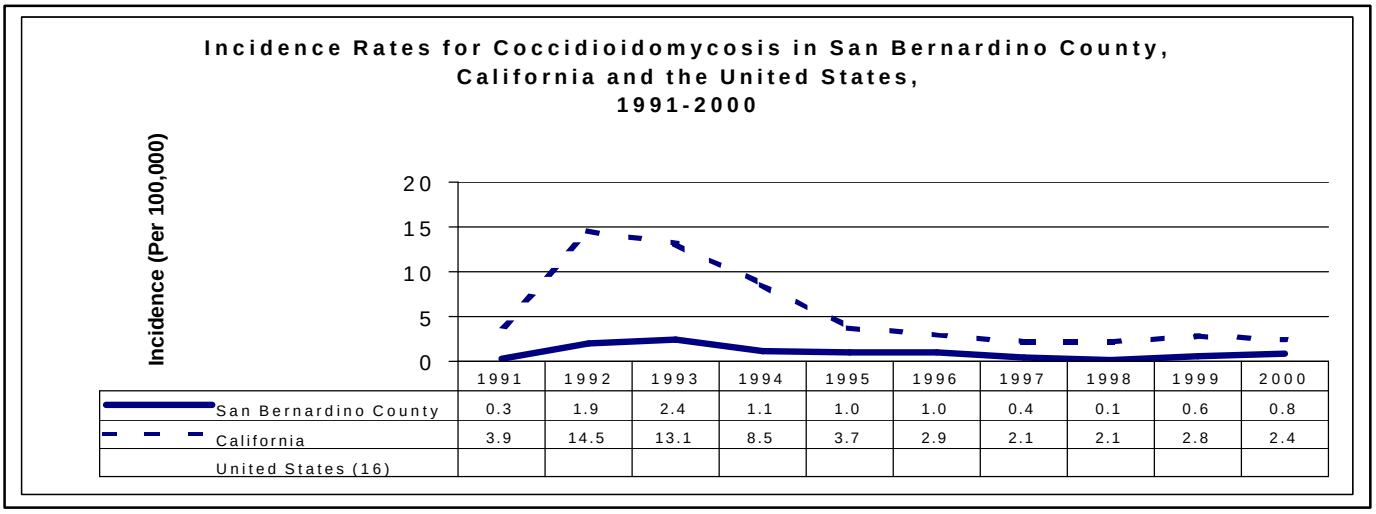
- Coccidioidomycosis, caused by a fungus that grows in soil, exists in two forms. Primary disease is an acute self-limiting disease involving only respiratory organs. Progressive coccidioidomycosis is rare and manifests as a chronic granulomatous disease that may involve nearly any part of the body.

- The disease is communicable neither person-to-person nor from animals to humans, except in extraordinary circumstances. People typically acquire the disease by inhaling an infective form of the fungus from soil. Males are more often infected than females, probably due to occupational exposure. During the 5-year period 1996-2000, males accounted for 35 (72.9%) of cases reported in San Bernardino County.

- In the US, primary infections are common only in arid and semiarid areas from California to Texas. California experienced an epidemic in the early 1990s, with the greatest increase in cases identified in Kern County. The disease is highly endemic in San Bernardino County. Infection is most common in summers following a rainy winter/spring, and after wind and dust storms.

- Blacks, Filipinos and other Asians, pregnant women and immunosuppressed individuals are more susceptible to disseminated disease.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	7	3	0	1	2
Black	3	1	0	2	1
Hispanic	3	2	1	1	5
Asian	1	0	0	0	1
Native Am	0	0	0	0	0
Other / Not Specified	2	1	1	6	4
Age Group					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	1	0	0	0	0
15-19	0	1	0	0	3
20-24	1	0	0	0	0
25-29	1	1	0	0	0
30-34	0	1	0	1	1
35-39	3	2	0	1	3
40-44	2	0	1	1	0
45-54	3	1	0	2	2
55-64	1	0	0	4	3
≥65	4	1	1	1	1
Not Specified	0	0	0	0	0
Total	**16**	**7**	**2**	**10**	**13**



Legionellosis

- Legionellosis is an uncommon disease caused by bacteria of the genus *Legionella*. These organisms have been isolated from water in numerous devices such as showers, cooling towers and hot tubs, and may survive in tap water for several months. Humans can become infected after inhaling airborne water droplets containing infective organisms.

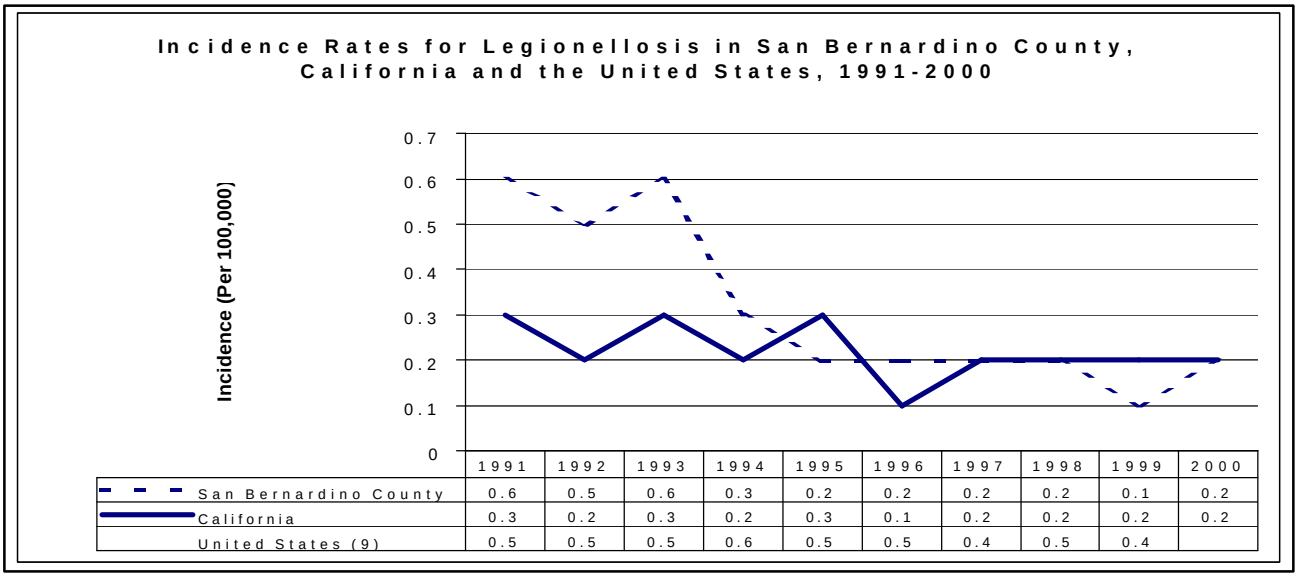
- The disease was first identified and received its name from an outbreak at a meeting of Legionnaires in a Philadelphia hotel in 1976. The earliest documented case, however, occurred in 1947.

- Legionellosis is most frequently diagnosed in the elderly and others with compromised immune systems. Eight of the 15 cases reported in San Bernardino County since 1996 were 55 years of age or older.

- Sporadic cases and outbreaks are reported more in the summer and fall.

- Limiting the growth of slime-forming organisms in stored water, and maintaining hot water system temperatures at 50°C (122°F) or higher, may reduce the risk of transmission.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	1	1	0	2	3
Black	0	1	0	0	1
Hispanic	1	0	1	0	0
Asian	0	0	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	1	1	2	0	0
Age Group					
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	0	0	0	0	0
20-24	0	0	0	0	0
25-29	0	1	0	0	0
30-34	0	0	0	0	0
35-39	1	1	0	0	0
40-44	0	0	0	0	1
45-54	0	0	0	1	2
55-64	1	0	2	0	0
≥65	1	1	1	1	1
Not Specified	0	0	0	0	0
Total	**3**	**3**	**3**	**2**	**4**



Rabies, Animal

- During 1991-2000, in San Bernardino County, all 86 animals testing positive for the rabies virus were bats, with the exception of one cat in 1993. In San Bernardino County, 11 individuals were reported to have received post exposure prophylaxis to prevent rabies infection during 2000.

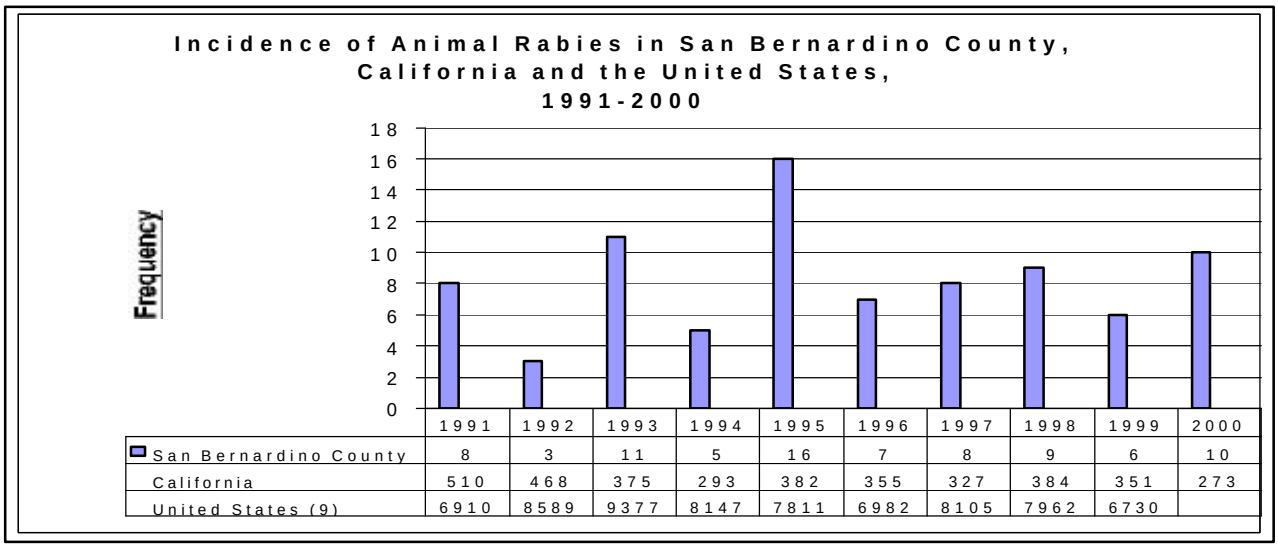
- In California during 2000, 273 rabid animals were reported, of which 167 were bats (61%), 98 were skunks (36%), 5 were foxes (2%), and 2 were dogs (<1%). The last rabid dog in San Bernardino County occurred in July 1948. (San Bernardino County Department of Public Health, Preventive Veterinary Services, 1998). Historically, numbers of cases of skunk rabies have been higher than cases of bat rabies in the State, currently though, bats are the predominant rabid species in California.

- In the US, wild animals accounted for 93% of the 7,962 animal rabies cases in 1998, with raccoons (44%), skunks (28.5%) and bats (12.5%) having the largest numbers of cases.

- Since 1990 there have been 28 human rabies cases in the US - 21 of which were associated with a bat variant rabies virus. In California in 2000, there was one reported human case of a bat-variant strain of rabies, but no known exposure. Prior to this year, the most recent human rabies case in California was in 1995. Insectivorous bats have small, fine, sharp teeth and may not leave an obvious injury after contact with an individual, especially one who is sleeping or otherwise incapacitated. Post-exposure prophylaxis guidelines have recently changed to include coverage for anyone who might be unaware of a bite or presence of a bat, such as children, an adult who wakes up with a bat in the room, or an intoxicated person. (Centers for Disease Control and Prevention, 1999)

- In the US, peak incidence in some species of rabid animals have been noted during spring and late summer with larger numbers of cases occurring in raccoons and skunks. Incidence of rabies in bats is largest in August. More cats have tested positive for the rabies virus in the month of June. No seasonal peaks of rabies are noted for foxes or dogs.

- Prevention of infection in humans begins with education about animal bites and the importance of not handling wild animals. Rabies vaccination programs for dogs and cats have been successful in dramatically decreasing the number of human and domestic animal rabies cases.



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
San Bernardino County	8	3	11	5	16	7	8	9	6	10
California	510	468	375	293	382	355	327	384	351	273
United States (9)	6910	8589	9377	8147	7811	6982	8105	7962	6730	

Malaria

- Malaria is a parasitic disease which humans acquire from the bite of an infective female *Anopheles* mosquito. Because mosquitoes of this genus are essential to the life cycle of the parasite, person-to-person transmission cannot otherwise occur except through such exposure as a blood transfusion under appropriate conditions.

- Travelers who may be exposed to mosquitoes in countries where malaria is common should use protective measures against mosquito bites. These travelers should also consult a healthcare professional about the use of chemoprophylaxis.

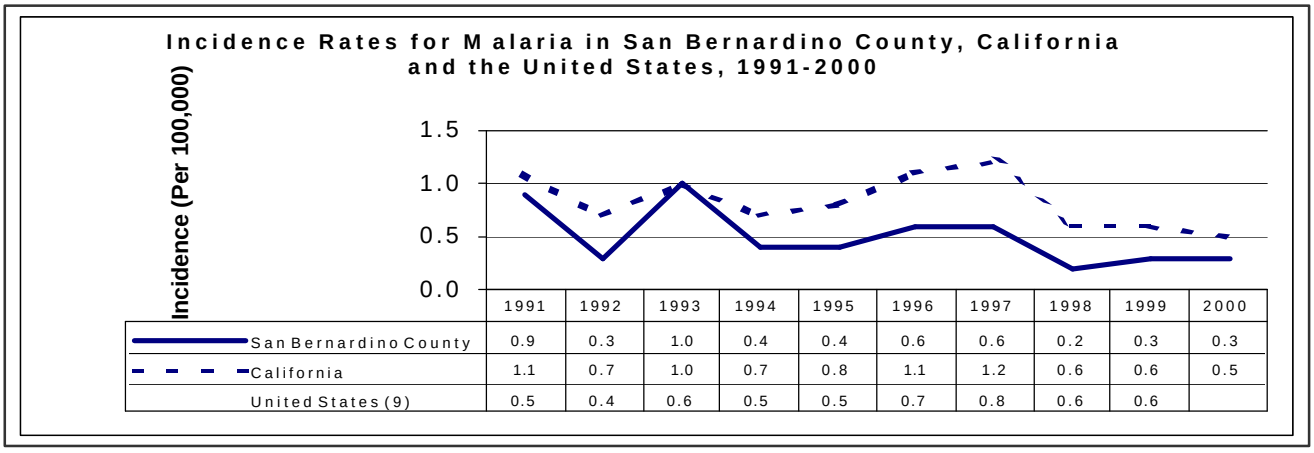
- Malaria has been reduced substantially in regions with temperate climates due to intensive vector control efforts. County programs for mosquito control have been in place for more than 20 years.

- None of the 32 cases reported in San Bernardino County since 1996 was acquired indigenously, though one case of *P.vivax* was in a person who originated from Central America and denied travel in the last 10 years. Of the 10 cases reported during 1999-2000, 5 occurred in people visiting or originating in Central America; 4 were from people traveling or living part time in Africa, including one child; and 1 case was in a returning traveler from Asia

- Of the county cases during 1999-2000, 6 were caused by *Plasmodium vivax*, 3 were caused by *Plasmodium falciparum*, and 1 was caused by *Plasmodium malariae.* Five of the 10 cases denied taking malaria prophylaxis, and of those who reported prophylaxis, 2 took chloroquine only.

	San Bernardino County				
	1996	1997	1998	1999	2000
Race/Ethnicity					
White	1	2	1	1	2
Black	5	3	1	1	0
Hispanic	0	0	1	3	2
Asian	2	1	0	0	0
Native Am	0	0	0	0	0
Other / Not Specified	2	3	0	0	1
Age Group					
<1	0	0	0	0	0
1-4	3	0	0	0	0
5-9	1	0	0	1	0
10-14	1	1	0	0	0
15-19	0	0	1	1	0
20-24	0	1	1	1	1
25-29	0	0	0	1	0
30-34	1	3	1	0	1
35-39	2	0	0	0	0
40-44	0	2	0	1	2
45-54	1	1	0	0	0
55-64	0	0	0	0	1
≥65	1	1	0	0	0
Not Specified	0	0	0	0	0
Total	**10**	**9**	**3**	**5**	**5**

HP 2000 Objective = 750 cases among international travelers



Section 3

Special Disease Focus: *Risk Factors for Hepatitis A Infection Among San Bernardino County Residents in 2000.**

Prepared by Alison Rue, MPH, Epidemiology Program

*Additional data regarding 1991-2000 hepatitis A cases in San Bernardino County can be found on page 21 of this report.

Hepatitis A continues to be one of the most frequently reported vaccine-preventable illnesses in the US. In 1999 in the US, 17,407 people were reported to have been ill with hepatitis A (CDC, 2000). Foodborne outbreaks of hepatitis A generate media attention and public concern and use tremendous amounts of resources to identify sources and control the spread of infection.

Nationally and internationally hepatitis A causes substantial morbidity and mortality in children and adults. In San Bernardino County, between 100 and 500 cases are reported annually, with lower numbers occurring in recent years. In order to assess the primary risk factors for infection in San Bernardino County residents, hepatitis A case report forms were reviewed and analyzed by County epidemiologists. The following report highlights findings of these chart reviews and subsequent analysis.

Data Sources and Methods

Hepatitis A is a reportable disease at the national, state and local levels. Suspect and confirmed cases of hepatitis A are required to be reported to the San Bernardino County Department of Public Health by physicians, hospitals and laboratories by Title 17 California Code of Regulations Sections 2500 and 2505. This analysis is based on review of case histories obtained by interview of all individuals reported as having hepatitis A in San Bernardino County in 2000. Of the 128 individuals reported as hepatitis A cases, 14 (10.9%) did not respond to multiple requests for interview and are considered lost to follow-up. These cases were not included in the analysis therefore, total cases reviewed were 114.

A shortcoming of this data is related to the passive reporting of cases from the community healthcare providers. The County is reliant on physician and hospital reporting and there may be differences in the cases that are reported to the County, and those that are not reported – therefore introducing an unknown bias. Illnesses may also be unreported if the diagnosis is based on clinical findings or the individual did not seek medical care.

Rates were calculated using population estimates for the United States, California, and San Bernardino County in 2000, and were based on results of the 2000 US Census. Specific age and race/ethnicity population data for San Bernardino County was obtained from mid-year estimates by the California Department of Finance. Population estimates limit the accuracy of rates and may affect conclusions regarding race/ethnicity and age rates.

Background on Hepatitis A

Despite licensure of the hepatitis A vaccine in 1995, hepatitis A is among the most frequently reported vaccine-preventable diseases in the United States. Hepatitis A is spread almost exclusively through the fecal-oral route and can produce either symptomatic or asymptomatic infection in humans. Symptomatic illness including fever, anorexia, abdominal pain, and jaundice usually begins abruptly after an incubation period of between 15 and 50 days (average 28 days). In children less than 6 years of age most (70%) infections are asymptomatic, but among older children and adults most cases are symptomatic. Signs and symptoms of hepatitis A usually last less than 2 months. In rare cases relapses and symptoms may extend up to 6 months, but no longer. Hepatitis A is not a chronic illness, and recovery from illness confers life-long immunity. Serious complications including death are relatively rare, however, adults over the age of 50 years are at increased risk. Peak infectivity occurs during the two-week period before onset of jaundice or elevation of liver enzymes, when the concentration of virus in stool is highest (CDC, 1999).

Several hepatitis A vaccines, both inactivated and attenuated, have been developed and evaluated in human clinical trials, but only inactivated vaccines have been evaluated for efficacy in controlled clinical trials. The two vaccines that are currently licensed in the US (HAVRIX® and VAQTA®) are both inactivated vaccines. The HAVRIX® vaccine is manufactured by SmithKline Beecham Biologicals, and VAQTA® is manufactured by Merck & Co., Inc. Both vaccines come in different formulations for different ages, and require a two-dose schedule. Vaccination for hepatitis A seems to confer life-long immunity just as infection with the virus would, however, detection of vaccine-related antibodies to hepatitis A is rare since antibody level following vaccination is 0-100 times lower than following actual infection (CDC, 1999).

Impact of Hepatitis A on the Population

Hepatitis A infection in adults can cause significant morbidity and related costs. Between 11 and 22 percent of individuals with hepatitis A are hospitalized. The average adult with hepatitis A misses 12 to 27 days of work. An estimated 100 people die of acute liver failure due to hepatitis A each year in the United States. Adults over the age of 50 are at greater risk of death than younger adults and children. Immune Serum Globulin (ISG) as post-exposure prophylaxis is routinely offered to contacts of hepatitis A cases, which averages about 11 contacts per case. The Centers for Disease Control and Prevention (CDC) estimate that the direct and indirect costs of hepatitis A range from $433 to $1,492 for children under 18 years of age, and between $1,817 to $2,459 for adult cases. Most of the cost of the disease is from days lost from work, hospitalization, and post-exposure prophylaxis for contacts. (CDC, 1999).

Results

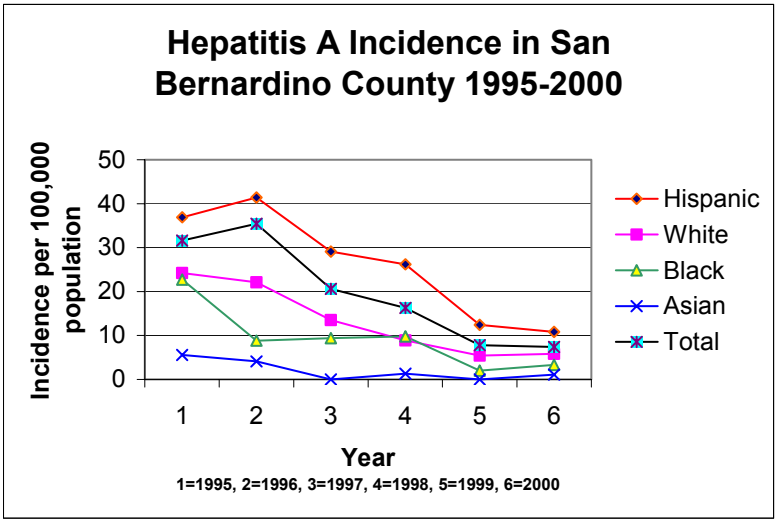
Hepatitis A 1995-2000

In San Bernardino County, the highest rate of reported hepatitis A per 100,000 people has been consistently among Hispanics (10.8), followed by Whites (5.8) and Blacks (3.3) (Table 1). In the US, the highest rate of hepatitis A is among Whites (9.3 cases per 100,000) and includes Hispanics and non-Hispanics. The highest rates in Whites are reported in Hispanics (12.6 cases per 100,000) and are low among non-Hispanics (3.0 cases per 100,000). American Indian and Alaska Natives also have high rates of hepatitis A in the population (7.4 cases per 100,000), Blacks have a rate of hepatitis A of 5.5 cases per 100,000, and Asians were reported to have 2.5 cases per 100,000.

The reason for the higher incidence among Blacks and Hispanics and Native American/Alaskan Natives may be related to lower socioeconomic levels and living conditions which are consistent with spread of hepatitis among family members and close contacts. Another possibility is the increased contact between family members and friends visiting from highly endemic areas such as Mexico and Central America. Table 1 on the following page illustrates the rates of hepatitis A by race/ethnicity in San Bernardino County, and the success the County has had in meeting the Healthy People 2000 Objectives. Additional historical data for US and county rates of hepatitis A is available on page 21 of this report.

Since 1996 the incidence of hepatitis A has declined steadily among Hispanics and Whites in San Bernardino County (Figure 1). The decline appears to be less steady among Blacks, Asians, and Native Americans, but it is unwise to draw conclusions for Blacks, Asians, and Native Americans since the low number of cases (n<5) of hepatitis A reported in each group makes the rates (per 100,000 population) unstable.

Figure 1.



National, state and local public health jurisdictions have a goal of meeting the Healthy People 2000 objective of rates of hepatitis A less than 16.0 cases per 100,000 population. By the year 2000, San Bernardino County had met and exceeded the 2000 objectives (Table 1). Healthy People 2010 objectives have already been set as a rate of less

than 4.5 cases per 100,000. In order for San Bernardino County to meet this new objective, it must lower the total incidence rate of 7.4 per 100,000 by 2.9 cases per 100,000 (Table 1).

Table 1. Incidence of Hepatitis A by race, San Bernardino County, 1995-2000

Incidence (Per 100,000 population)							Rate Margin ($I_{2000} - I_{HP}$)[b]	
Population Group [a]	1995	1996	1997	1998	1999	2000	HP 2000 (I ≤ 16.0)	HP 2010 (I < 4.5)
Hispanic	36.9	41.4	29.1	26.2	12.4	10.8	-5.2	+6.3
White	24.2	22.1	13.5	8.9	5.4	5.8	-10.2	+1.3
Black	22.7	8.8	9.4	9.8	2.0*	3.3*	-12.7	-1.2*
Total [c]	***31.6***	***35.4***	***20.6***	***16.3***	***7.8***	***7.4***	***-8.6***	***+2.9***

* Rates may be unstable (n<5)

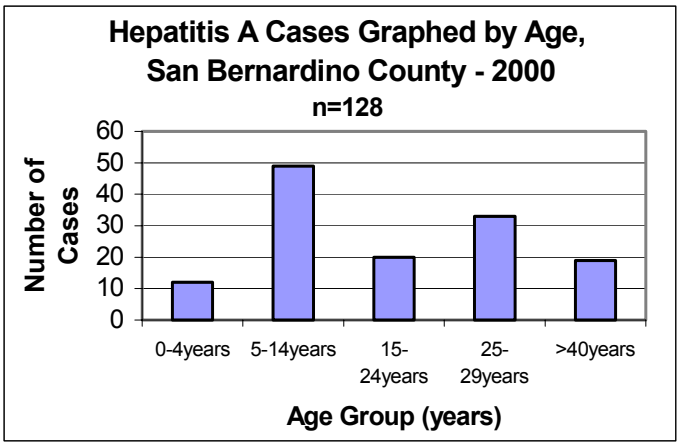
[a] Native American and Asian are not included (n<5 for all years)

[b] I_{HP} = The objective set by Healthy People 2000 or 2010 as the objective for incidence of Hepatitis A (per 100,000)
I_{2000} = The Incidence of Hepatitis A (per 100,000) reported in San Bernardino County during 2000;
Negative (-) values represent the quantity by which the 2000 population group is under the given HP objective;
Positive (+) values represent the quantity by which the 2000 population group exceeds the given HP objective;

[c] *Totals* are based on all cases reported in that year and include race/ethnic groups not listed in this table.

Two peaks in illness by age group were identified among San Bernardino County cases. Forty-nine of the 128 cases are in children aged 5-14 years representing 38.3% of all cases. This group also had the highest rate at 15.3 cases per 100,000. The high rate of illness in this age group may be related to the frequent travel within this cohort to highly endemic areas, particularly Mexico; or they may be exposed to diapered siblings who are passing the virus, but are asymptomatic. Another peak in illness is among adults aged 25-29 (14.2 per 100,000) accounting for 12.5% of cases, and may be related to increased drug activity, or the presence of a young child (possibly in diapers) in the house. Similar peaks are seen in US cases with the age group 5-14 years followed by 25-39 year olds having the highest numbers of cases. The lowest number of cases in the US occur in adults over 40 years old. In San Bernardino County the lowest number of cases is among very young children and adults 55 years and older. Low numbers of reported cases among young children likely reflects the infrequency of symptomatic illness, rather than a low incidence of infection. Lower numbers of reported cases in the adult age group likely reflects increasing coverage by immunization and resulting immunity. Figure 2 gives the number of cases of hepatitis A in San Bernardino County in different age groups.

Figure 2.

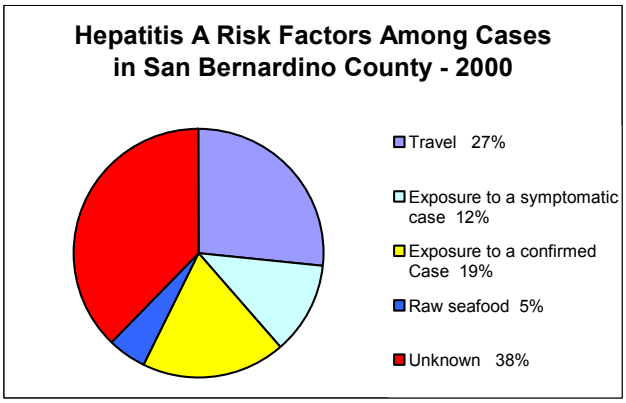


Hepatitis A Risk Factors in San Bernardino County

Hepatitis A is common in developing countries where spread is primarily through contact with contaminated water and food. In developed countries, several risk factors for hepatitis A have been identified. In the United States, transmission occurs most commonly among household and sexual contacts of acute cases, travelers to countries where hepatitis A is endemic, injection drug users, among men having sex with men, and occasionally among diapered children in day care centers (Chin, 2000). Other identified risks for hepatitis A include ingestion of raw or undercooked shellfish, and a general breakdown of sanitary conditions – such as after a natural disaster (Hiroshi & Feinstone, 2000).

Analysis of hepatitis A cases identified several risk factors associated with infection in San Bernardino County in 2000 and are included in Figure 3. The risk factors analyzed in this study were: travel outside of the US, household or close exposure to a known or suspect hepatitis A case, day care association, consumption of raw seafood, men who have sex with men, and use of injection and non-injection illegal drugs.

Figure 3.



* Cases may have reported more than one risk factor.

* n=114

Exposure to a Confirmed or Suspect Case

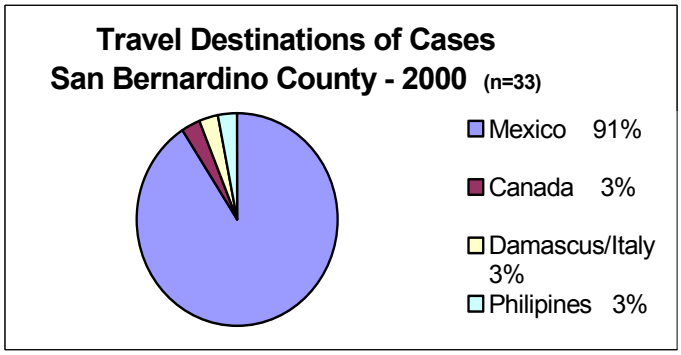
In the US and San Bernardino County, household or close contact with a case of hepatitis A is the most common risk factor associated with infection. In San Bernardino County, 19% of the total cases of hepatitis A reported contact with a known case in the 50 days prior to their onset of illness. In addition to the verified known contacts, 12% of the cases that were interviewed responded that they had contact with a jaundiced person, or an individual suspected to have hepatitis A in the same time period. For the purposes of this report, exposure to a known case of hepatitis A means that the contact of the case identified was also considered a case by the health department. In all, a total of 31% of the cases reported in San Bernardino County had contact with a confirmed or suspected case of hepatitis A. Many of these cases could have been prevented with prompt reporting. Delays in reporting by physicians, laboratories and hospitals are a major concern in the process of case follow-up and contact prophylaxis. San Bernardino County is continuously working to educate physicians on the importance of prompt reporting of hepatitis A cases. Immune Serum Globulin (ISG) is an effective prophylaxis for contacts of cases only if given within 14 days.

Travel

For travelers to countries where hepatitis A is highly endemic, infection of susceptible persons with the virus is a risk. In most countries with high hepatitis A rates, poor environmental sanitation promotes the spread of foodborne illnesses. Travelers tend to eat at the homes of family members, or restaurants where hand washing facilities and food preparation techniques are not adequate to prevent food contamination with hepatitis A. Of the hepatitis A cases reported in 2000 among San Bernardino County residents, 27% reported that they traveled in the months preceding onset of hepatitis. (Figure 3). Of those that traveled, 91% of them were travelers to Mexico (Figure 4).

Other countries of travel reported by San Bernardino cases included the Philippines (3%), Middle East and Western Europe (3%), and Canada (3%). According to CDC, travelers to the developed countries of Canada, Australia, Western Europe, Japan, and New Zealand are at no greater risk for infection than in the United States since rates of infection are generally low.

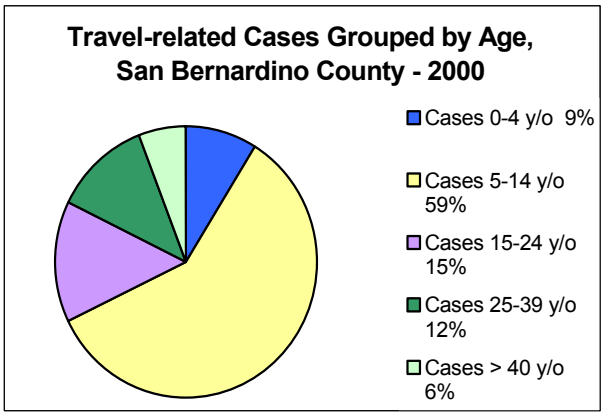
Figure 4.



Travel and Children

In San Bernardino County, children under the age of 15 account for approximately 68% (two thirds) of travel-related cases, twice the approximated US level of 30%. Of these County travel-related cases, the majority, 59% (20 of 34), are among children aged 5-14 years of age (Figure 5). The increased rates of illness in children may be related to several factors. First, all but one of the children who traveled to Mexico in 2000, were Hispanic. It is possible that parents or family members who traveled with the children were immune to hepatitis A. This is probable if they had grown up in Mexico, or had spent a lot of time as child there, or in any area where hepatitis A was endemic. The World Health Organization (WHO) reports that almost all children in developing countries have had hepatitis A by the age of 9. Therefore, in developing countries, cases of hepatitis A cases among adults are rare and mortality low. As sanitation improves in these countries, a shift in cases towards older ages is expected, similar to what is seen in the US among non-traveling people. The increase of infection among children who traveled to Mexico may also be related to the length of stay in Mexico. Children and youth may stay with family in Mexico while parents return to work in the US. CDC research indicates that length of stay in an area that is highly endemic for hepatitis A is directly related to increased risk of infection. In order to assess this in San Bernardino County residents, it would be necessary to purposefully study this question as standard follow-up doesn't capture the necessary information.

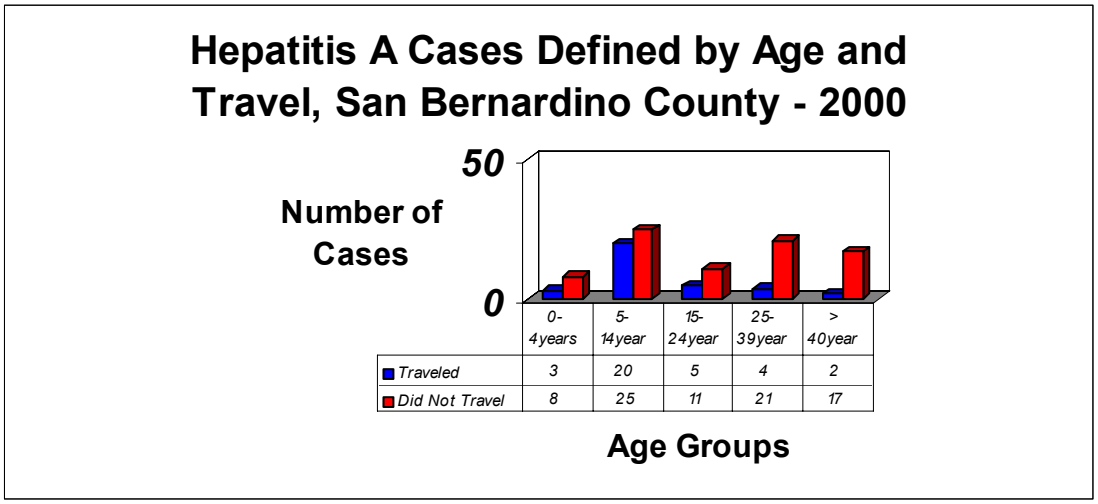
Figure 5.



* n=33

Among all reported cases of hepatitis A in children aged 5–14 years, 80% of them had traveled within the two months preceding illness with hepatitis A (Figure 6). In 2000, travel-related hepatitis A in County children was exclusively associated with travel to Mexico. This indicates that vaccination of children who frequently travel to Mexico is an important public health objective for this county. Emphasis should focus on vaccinating school-age and younger children who tend to visit family in Mexico. While hepatitis A vaccine is now a recommended vaccine, additional education may not be possible through travel agencies because it is unlikely children and their families would seek travel counseling prior to leaving.

Figure 6.



℘ Of children aged 5-14, 80% had traveled (20 of 25 cases)
* n=116

Raw Seafood

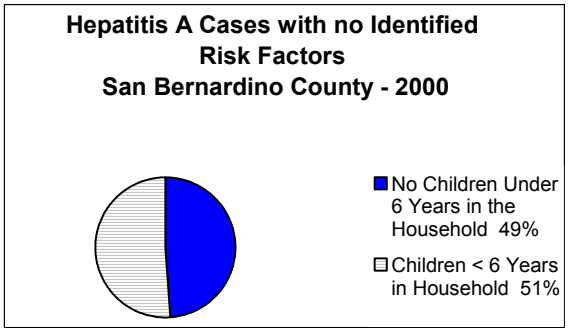
Increasingly in recent years outbreaks and cases of hepatitis A have been associated with contaminated raw shellfish products (CDC, 1999). In San Bernardino County six cases (5% of reported cases) reported eating raw seafood of any kind in the two months preceding illness with hepatitis A. Of those, five reported eating raw shellfish (two ate clams or oysters, three had shrimp), and one reported eating raw fish. It is difficult to determine if this was the means of exposure to hepatitis A since of those six who reported eating shellfish, three had also traveled to Mexico during this time, and two had actually eaten the shellfish in Mexico. The one person who reported eating raw fish, had eaten the fish on a trip to Mexico. Only two of the cases who ate shellfish had not traveled to Mexico, one of which had a known household exposure and the other had apparently traveled but the destination is unknown.

Unknown

In San Bernardino County, 38% of the cases of hepatitis A cases could not be associated with a known risk factor. In the US, approximately 50% of persons with hepatitis A do not have a source of infection identified. One explanation is contact with an infected but asymptomatic child. Children under the age of 6 years who become infected with hepatitis A do not usually develop symptoms, and so expose their families to the virus without the family realizing the child is ill. One study by Staes, Schlenker, Risk et al. (1996) found that among adults without an identified source of infection, 52% of their households had a child under the age of six in residence, and the presence of a young child was associated with hepatitis A transmission within the household. In another study, in households where there was no identified source of infection, the authors found 25-40% of the contacts who were less than 6 years old were serologically positive for hepatitis A infection (IgM and anti-HAV).

In San Bernardino County the number of cases with no identified risk factors and a child under the age of six years in the household was similar to the findings of Staes, Schlenker, Risk et al. Of 47 cases reported to San Bernardino County without an identified risk factor, 24 (51%) had a child under 6 years in the household, or had close contact with a child under 6 years of age (Figure 7). It is reasonable to conclude that of the county cases with no identifiable source, at least some may be related to contact with asymptomatic younger children. Increased testing of children under the age of six years for the presence of hepatitis A virus would further the understanding of the role of inapparent infection in these households.

Figure 7.



*n=47

Intravenous Drug Use

Hepatitis A transmission occurs at increased rates among intravenous drug users due to decreased personal hygiene or possibly due to transient viremia. Of the cases reported to San Bernardino County in 2000, only 2 (1.7%) reported using intravenous drugs. Both of these cases were in institutionalized men, one for which information regarding other risk factors was incomplete, and the other had a 10-yr history of drug use and no other risk factors were reported. CDC (1999) reports that in recent years in some western US communities, nearly 30% of reported hepatitis A cases have been among injecting drug users.

Men Who have Sex With Men

Hepatitis A outbreaks occur frequently among men who have sex with men, particularly in urban centers. None of the 70 male cases of hepatitis A reported among county residents reported having sex with another man.

Daycare

Daycare centers have been associated with outbreaks of hepatitis A among children and their families. The risk of transmission from asymptomatic children to staff members at daycares is primarily related to care of diapered children. Over all, daycares are not a primary source of community outbreaks of hepatitis A, instead they often reflect extended transmission within the community (CDC, 1999). In San Bernardino County the last outbreak of hepatitis A in a daycare center occurred in 1996, causing an estimated 18 cases among the children and parents attending the center. Investigation was complicated by the lack of symptoms among serologically positive children. No cases were identified among adults associated with the center. No common source was identified and transmission is thought to be the result of spread from child to child. In 2000, no cases of hepatitis A were identified in children attending any large daycare centers, however, one case occurred in a child being cared for in a family daycare. One adult case of hepatitis A was in a part-time church nursery attendant, and it occurred during an ongoing cluster of cases among several of the children and adult church members.

Outbreaks and Clusters

The Department of Public Health investigated two outbreaks and a large cluster of hepatitis A cases in 2000. One foodborne outbreak occurred in nine customers of a deli following illness in a food handler. In the US, foodborne outbreaks of hepatitis A are fairly uncommon, and are usually associated with contamination by a hepatitis A-infected food handler (CDC, 1999). A cluster of 22 cases was identified among San Bernardino and Riverside County residents related to a church group that conducted outreach to homeless individuals and those seeking help with substance abuse. The second outbreak in 2000 occurred in a mobile home park where 13 individuals became ill from person-to-person transmission of hepatitis A. The mobile home park outbreak was linked by several common cases to the outbreak in the church group. These outbreaks affected relatively small groups of people and were detectable because of the current low incidence of hepatitis A in San Bernardino County. This low incidence allowed identification of associations and common exposures that might otherwise not have been detected.

Conclusions

Overall, numbers of hepatitis A cases have continued to decline in both San Bernardino County and the US. The continued decline in hepatitis A cases may be related to the increased availability of the hepatitis A vaccination which affects the incidence and disease transmission in the population. The decline in numbers of cases may also be

a natural low in the rates, a cycle that has been seen in previous years. If the continuing decline is related to vaccination, then to sustain this reduction, hepatitis A vaccination of children must continue to be a priority.

The highest numbers of hepatitis A cases in San Bernardino County are in children ages 5-14 years, and adults aged 25-29 years. Hepatitis A is more common in the Hispanic population than the White non-Hispanic population, both of which are more commonly reported than African Americans and Native Americans in San Bernardino County. Hepatitis A rates vary by race/ethnicity as noted in Table 1. Most cases in the US are reported in Whites, with the majority in Hispanics, similar to San Bernardino residents. Native American and Alaskan Native also report a high rate of infection in the US as do Blacks. Asians are least frequently reported with hepatitis A in the US. Race/ethnic differences in the US are probably due to socioeconomic factors affecting living conditions, as well as contact with persons from countries where hepatitis A is endemic, such as Central America and Mexico. Continued control of hepatitis in both the County and the US must focus on vaccination of young adults and children, and eventually older adults.

Of the San Bernardino County residents reported with hepatitis A, the most common risk factor (31%) for infection identified was contact with a confirmed or suspected case of hepatitis A. Other common risk factors identified were travel outside of the US (27%), and having a child in the house who is under the age of six years. The most common travel destination among our reported cases was to Mexico (91%) which indicates a need for vaccination emphasis among those who travel to Mexico as well as travel to other countries with high incidence of hepatitis A.

Increasing surveillance on hepatitis, educating physicians about the importance of reporting cases of suspect or confirmed hepatitis A, and improving communication between laboratories, hospitals, emergency rooms, and the public health department will help in the reporting, follow-up and prevention of hepatitis A. Continued education of the public regarding personal hygiene and vaccination options will also help prevent secondary cases of hepatitis within families and among close contacts.

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Appendices

A. Healthy People 2000 Progress Report

B. 2000 Outbreaks of Illness

C. List of Reportable Diseases and Conditions

D. California Department of Finance Population Estimates, 1999-2000

E. Footnotes

F. Data Sources

Comparison of Progress toward Healthy People 2000 Goals for Selected[a] Reportable Diseases, San Bernardino County and California

Reportable Disease Rates in 2000			
Reportable Disease	**San Bernardino County**	**California**	**HP 2000 Goal**
AIDS	7.5 per 100,000 population	8.4 per 100,000 population	43.0 per 100,000 population
Campylobacteriosis	9.5 per 100,000 population	19.0 per 100,000 population	25.0 per 100,000 population
Chlamydia	0.8% of females < 25 years	Data Not Available	5.0% of females < 25 years
E. coli O157:H7 Infection	0.1 per 100,000 population	0.9 per 100,000 population	4.0 per 100,000 population
Gonorrhea	62.8 per 100,000 population	62.7 per 100,000 population	100.0 per 100,000 population
Hepatitis A	7.5 per 100,000 population	8.6 per 100,000 population	16.0 per 100,000 population
Listeriosis	0.2 per 100,000 population	0.4 per 100,000 population	0.5 per 100,000 population
Measles (Rubeola)	0 cases	19 cases*	0 cases
Rubella	0 cases	13 cases*	0 cases
Salmonellosis	9.6 per 100,000 population	12.4 per 100,000 population	16.0 per 100,000 population
Syphilis, Primary & Secondary	0.7 per 100,000 population	0.8 per 100,000 population	4.0 per 100,000 population
Tuberculosis	6.1 per 100,000 population*	9.5 per 100,000 population*	3.5 per 100,000 population

* Denotes indicators that do not meet or exceed HP 2000 goal.

[a] Selected diseases consist of those that are included in this report for which HP 2000 comparison can be made to local indicators produced from existing and available data.

NON FOODBORNE OUTBREAKS					
MONTH	***ETIOLOGY***	***SITE***	***# OF CASES***	***VEHICLE***	***MODE***
February	Gastroenteritis unspecified	Daycare *1	6	Children and staff hands and mouthed toys	Person to person
February	RSV	Daycare *1	6	Staff hands and mouthed toys	Person to person
April	Herpangina	Daycare Preschool	12	Children hands and mouthed toys	Person to person
May	Herpangina	Preschool	14	Children hands and mouthed toys	Person to person
May	Gastroenteritis unspecified	Hospital	15	Unwashed hands patients and staff	Person to person
June	Norwalk-like	SNF	52	Unwashed hands patients and staff	Person to person
June	Diarrheal	Hospital NICU	7	Unwashed hands staff	Person to person
July	Norwalk-like	SNF *2	31	Unwashed hands patients and staff	Person to person
July	Scabies	SNF	36	Staff and patients	Person to person
September	Ringworm	High School	9	Mats, wrestlers	Person to person
September	Hepatitis A	Residential	13	Unwashed hands	Person to person
October	Norwalk –like	SNF	21	Unwashed hands patients and staff	Person to person
December	Scabies	Hospital	20	Staff	Person to person
December	Norwalk-like	SNF *2	31	Unwashed hands patients and staff	Person to person

FOODBORNE OUTBREAKS					
MONTH	***ETIOLOGY***	***SITE***	***# OF CASES***	***VEHICLE***	***CONTRIBUTING FACTORS***
January	*Shigella sonnei*	Various	13	5 layer dip	Foodhandlers, poor plant condition
March	Gastroenteritis unspecified	Camp	34	Multiple	Time and temperature violation, rodent infestation, cross contamination
April	Gastroenteritis unspecified	Restaurant	52	Shrimp cocktail	No soap in restrooms, cutting board dirty
April	Gastroenteritis unspecified	Restaurant	30	Chicken Picatta	Not identified
May	Gastroenteritis unspecified	Restaurant	10	Sub sandwiches	Small child in kitchen area
June	Gastroenteritis unspecified	Restaurant	7	Numerous buffet items	Time and temperature violations, presence of roaches
June	Gastroenteritis unspecified	Fast Food	7	Sandwiches, burgers	Time and temperature violations, insect infestations, ill foodhandler
June	Gastroenteritis unspecified	Restaurant	4	Hamburger	Temperature, raw food in contact with cooked food, cross contamination
August	Gastroenteritis unspecified	Restaurant	7	Chili verde	Time and temperature violations, insect infestation
September	Hepatitis A	Deli	10	Lunch meats, cheese	Foodhandler
November	Gastroenteritis unspecified	Restaurant	25	Cheese burritos	Temperature discrepancy, no soap
November	Gastroenteritis unspecified	Deli	20	Roast beef	Not identified

*Same Facility

SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC HEALTH
799 East Rialto Avenue, San Bernardino, CA 92415-0010 (909) 383-3050 (909) 386-8325 FAX

REPORTABLE DISEASES AND CONDITIONS
California Code of Regulations

Section 2500. Reporting to the Local Health Authority

1. Communicable Diseases

Acquired Immune Deficiency Syndrome (AIDS)
Amebiasis †
Anisakiasis †
Anthrax*
Babesiosis †
Botulism (Infant, Foodborne, Wound)*
Brucellosis*
Campylobacteriosis †
Chancroid
Chlamydial Infections
Cholera*
Ciguatera Fish Poisoning*
Coccidioidomycosis
Colorado Tick Fever †
Conjunctivitis, Acute Infectious of the Newborn, Specify Etiology †
Cryptosporidiosis †
Cysticercosis
Dengue*
Diarrhea of the Newborn, Outbreaks*
Diphtheria*
Domoic Acid Poisoning (Amnesic Shellfish Poisoning) *
Echinococcosis (Hydatid Disease)
Ehrlichiosis (HGE)
Encephalitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic †
Escherichia coli 0157:H7 *
Foodborne Disease † Γ
Giardiasis
Gonococcal Infections
Haemophilus influenzae, Invasive Disease †
Hantavirus Infections *
Hemolytic Uremic Syndrome *
Hepatitis, Viral
Hepatitis A †
Hepatitis B, Cases or Carriers (Specify)
Hepatitis C (Acute or Chronic) See Note
Hepatitis D (Delta)
Hepatitis, other, acute
Kawasaki Syndrome (Mucocutaneous Lymph Node Syndrome)
Legionellosis
Leprosy (Hansen Disease)
Leptospirosis
Listeriosis †
Lyme Disease
Lymphocytic Choriomeningitis †
Malaria †
Measles (Rubeola) †
Meningitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic †
Meningococcal Infections *
Mumps
Non-Gonococcal Urethritis (Excluding Laboratory Confirmed Chlamydial Infections)
Paralytic Shellfish Poisoning *
Pelvic Inflammatory Disease (PID)
Pertussis (Whooping Cough) †
Plague, Human or Animal *
Poliomyelitis, Paralytic †
Psittacosis †
Q Fever †
Rabies, Human or Animal *
Relapsing Fever †
Reye Syndrome
Rheumatic Fever, Acute
Rocky Mountain Spotted Fever
Rubella (German Measles)
Rubella Syndrome, Congenital
Salmonellosis (Other than Typhoid Fever) †
Scombroid Fish Poisoning *
Shigellosis †
Smallpox (Variola)*
Streptococcal Infections (Outbreaks of Any Type and Individual Cases in Food Handlers and Dairy Workers Only) †
Swimmer's Itch (Schistosomal Dermatitis) †
Syphilis †
Tetanus
Toxic Shock Syndrome
Toxoplasmosis
Trichinosis †
Tuberculosis †
Tularemia*
Typhoid Fever, Cases and Carriers †
Typhus Fever
Varicella (deaths only)*
Vibrio Infections †
Viral Hemorrhagic Fevers *
Water-associated Disease †
Yellow Fever *
Yersiniosis †

Section 2500. Reporting (cont'd)

OCCURRENCE OF ANY UNUSUAL DISEASE* - a rare disease or emerging disease or syndrome of uncertain etiology which could possibly be caused by a transmissible infectious agent.

OUTBREAK OF ANY DISEASE* - occurrence of cases of a disease above the expected level over a given amount of time, in a geographic area or facility, or in a specific population group, including diseases not listed in Section 2500.

Note: Guidelines for Reporting Hepatitis C/NANB – When reporting hepatitis C cases, please include HAV IgM, HbsAg, and HbcAb test results, liver enzymes, and date of onset of illness if known.

2. Non-Communicable Disease and Conditions
Alzheimer's Disease and Related Conditions
Disorders Characterized by Lapses of Consciousness

* To be reported immediately by telephone.

† To be reported by mailing a report or by telephoning within one (1) working day of identification of the case or suspected case. All other conditions are to be reported within seven (7) calendar days from the time of identification.

Γ When two (2) or more cases or suspected cases of foodborne disease from separate households are suspected to have the same source of illness, they should be reported immediately by telephone.

IDB/DHS Effective 11/01

Section 2505 and 2612. Notification by laboratories. Laboratories are to report the following diseases:

Anthrax*
Botulism*
Brucellosis*
Chlamydial infections†
Cryptosporidiosis†
Diphtheria†
Encephalitis, arboviral†
Escherichia coli O157:H7 infection†
Gonorrhea†
Hepatitis A, acute infection, by IgM antibody test or positive viral antigen test†
Hepatitis B, acute infection by IgM anti-HBc antibody test†
Hepatitis B, surface antigen positivity (specify gender)†
Listeriosis†
Malaria†
Measles (Rubeola), acute infection, by IgM antibody test or positive viral antigen test†
Plague, animal or human*
Rabies, animal or human†
Salmonella†
Smallpox*
Syphilis†
Tuberculosis†
Tularemia*
Typhoid†
Vibrio species infections†
Viral hemorragic fever agents*

REPORTABLE DISEASES AND CONDITIONS

California Code of Regulations

HOW TO REPORT: Extremely urgent conditions (i.e., anthrax, botulism, cholera, dengue, diphtheria, foodborne disease, plague, rabies, and relapsing fever) should be reported by telephone immediately, 24-hours a day. Other urgent conditions should be reported by telephone during regular business hours. Non-urgent conditions may be reported by telephone or mail on confidential morbidity report (CMR) forms. These forms must be filled out completely. All of the requested information is essential, including the laboratory information for selected diseases on the front of the form. All telephone and mailed reports are to be made to the Epidemiology Program in San Bernardino.

San Bernardino County Department of Public Health
799 East Rialto, San Bernardino, CA 92415-0011
(909) 383-3050 (909) 386-8325 FAX (909) 356-3805 Night and Weekend Emergency

ORDERING CMRs: For the reporting of non-urgent conditions we will supply CMRs to all providers wishing to utilize them. Once or twice weekly you may insert all accumulated CMRs into an envelope and mail them. For a camera-ready copy of the CMR form, contact the San Bernardino office at the daytime phone number.

ANIMAL BITE: Animal bites by a species subject to rabies are reportable in order to identify persons potentially requiring prophylaxis for rabies. Additionally, vicious animals are identified and controlled by this regulation and local ordinances (California Code of Regulations, Title 17, Sections 2606, et seq.: Health and Safety Code Sections 1900-2000). Reports can be filed with the local animal control agency or the County Animal Control Office at 1-800-472-5609 may assist you in filing your report.

LABORATORY REPORTING: Forward a copy of the laboratory report within one day of report to health care provider. Line listings are not acceptable. Forward to the county in which the health care provider is located or to the State Health Officer if out of California. Information which should be included:

Patient Information
- Name
- Date of Birth
- Identification Number
- Address (if known)
- Telephone Number (if known

Specimen Information
- Result
- Date Taken
- Date Reported
- Accession Number

Provider Information
- Name
- Address
- Telephone Number

PESTICIDE EXPOSURE: The Health and Safety Code, Section 105200, requires that a physician who knows, or who has reason to believe, that a patient has a pesticide-related illness or condition must report the case to the local County Health Department by telephone within 24 hours.

This reporting requirement includes all types of pesticide related illnesses: skin and eye injuries, systemic poisonings, suicides, homicides, home cases, and occupational cases. **Failure to comply with the foregoing reporting requirements renders the physician liable for a civil penalty of $250.00.** Phone reports may be made to (909) 383-3050.

For occupational exposure there is an additional requirement to send the "Doctor's First Report of Occupational Injury or Illness" to the Department of Health within seven days. Copies of the report form (5021, Rev. 4/92) may be obtained from the same office for future use.

CANCER REPORTING: Under state law (Chapter 841. Statutes of 1985) invasive or in situ malignancies (including CIN III of the cervix), except basal and squamous cell carcinomas of the skin, diagnosed on or after June 1, 1988 which have not been admitted to a California hospital for diagnosis or treatment of cancer, and who will not be referred to a California hospital for diagnosis or treatment must be reported to the County Health Department on a Confidential Morbidity Report (CMR) form. For additional information on cancer reporting requirements, please contact the Cancer Surveillance Program, (909) 799-6170.

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Appendix D: California Department of Finance Population Estimates

San Bernardino County Population by Race/Ethnicity, Sex, and Age: 2000

Age	All Race/Ethnicities			White			Hispanic			Asian/Pacific Islander			Black			Native American		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<1	31,310	16,000	15,310	10,678	5,457	5,221	15,675	8,013	7,662	1,766	900	866	3,027	1,546	1,481	164	84	80
1-4	124,269	63,515	60,754	43,482	22,250	21,232	61,446	31,434	30,012	6,912	3,524	3,388	11,762	5,969	5,793	667	338	329
5-9	166,534	85,198	81,336	70,756	36,327	34,429	69,914	35,766	34,148	8,788	4,537	4,251	16,297	8,149	8,148	779	419	360
10-14	152,950	77,629	75,321	72,595	37,026	35,569	56,843	28,734	28,109	7,111	3,667	3,444	15,584	7,807	7,777	817	395	422
15-19	137,921	70,796	67,125	67,728	34,929	32,799	48,875	25,053	23,822	7,059	3,618	3,441	13,397	6,755	6,642	862	441	421
20-24	120,955	62,502	58,453	58,468	30,226	28,242	43,207	22,446	20,761	6,512	3,370	3,142	11,898	6,008	5,890	870	452	418
25-29	112,351	58,987	53,364	52,038	26,921	25,117	41,340	22,295	19,045	6,916	3,404	3,512	11,195	5,918	5,277	862	449	413
30-34	121,123	63,838	57,285	56,971	29,136	27,835	44,274	24,611	19,663	6,832	3,289	3,543	12,238	6,364	5,874	808	438	370
35-39	140,905	70,726	70,179	75,128	36,918	38,210	44,224	23,307	20,917	7,328	3,455	3,873	13,337	6,593	6,744	888	453	435
40-44	141,850	70,785	71,065	82,386	40,990	41,396	38,699	19,970	18,729	7,412	3,404	4,008	12,432	5,990	6,442	921	431	490
45-54	213,486	106,742	106,744	132,515	66,618	65,897	50,589	25,834	24,755	12,175	5,529	6,646	16,600	7,992	8,608	1,607	769	838
55-64	116,185	57,556	58,629	76,844	38,305	38,539	24,360	11,976	12,384	5,800	2,769	3,031	8,130	3,983	4,147	1,051	523	528
65+	147,613	62,466	85,147	110,678	46,380	64,298	24,351	10,714	13,637	5,075	2,061	3,014	6,520	2,889	3,631	989	422	567
Total	**1,727,452**	**866,740**	**860,712**	**910,267**	**451,483**	**458,784**	**563,797**	**290,153**	**273,644**	**89,686**	**43,527**	**46,159**	**152,417**	**75,963**	**76,454**	**11,285**	**5,614**	**5,671**

San Bernardino County Population by Race/Ethnicity, Sex, and Age: 1999

Age	All Race/Ethnicities			White			Hispanic			Asian/Pacific Islander			Black			Native American		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<1	30,676	15,675	15,001	10,772	5,505	5,267	15,119	7,729	7,390	1,674	853	821	2,947	1,504	1,443	164	84	80
1-4	122,914	62,809	60,105	45,168	23,178	21,990	59,016	30,121	28,895	6,575	3,385	3,190	11,503	5,793	5,710	652	332	320
5-9	165,966	84,796	81,170	73,878	37,879	35,999	66,703	34,107	32,596	8,227	4,212	4,015	16,372	8,185	8,187	786	413	373
10-14	146,627	74,390	72,237	70,915	36,162	34,753	53,263	26,878	26,385	6,819	3,507	3,312	14,840	7,447	7,393	790	396	394
15-19	134,373	69,069	65,304	66,918	34,525	32,393	46,900	24,124	22,776	6,695	3,430	3,265	12,953	6,530	6,423	907	460	447
20-24	114,776	59,214	55,562	55,983	28,987	26,996	40,652	20,963	19,689	6,121	3,159	2,962	11,184	5,682	5,502	836	423	413
25-29	113,103	60,089	53,014	53,519	27,777	25,742	41,008	22,617	18,391	6,487	3,238	3,249	11,210	5,978	5,232	879	479	400
30-34	121,435	63,216	58,219	58,776	29,705	29,071	43,308	23,790	19,518	6,465	3,107	3,358	12,126	6,210	5,916	760	404	356
35-39	142,713	71,584	71,129	78,583	38,721	39,862	42,863	22,554	20,309	7,092	3,333	3,759	13,264	6,524	6,740	911	452	459
40-44	138,589	69,111	69,478	81,564	40,636	40,928	36,946	19,007	17,939	7,274	3,330	3,944	11,883	5,701	6,182	922	437	485
45-54	201,686	101,128	100,558	126,703	63,947	62,756	46,747	23,876	22,871	11,282	5,132	6,150	15,417	7,435	7,982	1,537	738	799
55-64	111,221	54,862	56,359	74,452	36,939	37,513	22,739	11,118	11,621	5,286	2,518	2,768	7,734	3,789	3,945	1,010	498	512
65+	144,905	61,162	83,743	110,059	46,029	64,030	23,081	10,140	12,941	4,723	1,920	2,803	6,114	2,678	3,436	928	395	533
Total	**1,688,984**	**847,105**	**841,879**	**907,290**	**449,990**	**457,300**	**538,345**	**277,024**	**261,321**	**84,720**	**41,124**	**43,596**	**147,547**	**73,456**	**74,091**	**11,082**	**5,511**	**5,571**

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Appendix E: Footnotes

(1) To obtain a copy of the most recent AIDS Program report, please call (909) 383-3060.
(2) Pelvic Inflammatory Disease (PID) does not include chlamydial PID or gonococcal PID, which are shown separately under chlamydia and gonorrhea respectively. PID cases for which the etiologic agent is determined to be *Chlamydia trachomatis* or *N. gonorrhoeae* are included in the total number of cases of chlamydia and gonorrhea, respectively.
(3) Diagnosis of cholera is confirmed by isolating *Vibrio cholerae* from feces, and is distinguished from isolation of other *Vibrio* species that also cause gastrointestinal disease and are counted as Vibrio Infections in this report. In 2000, the one non-cholera case due to *Vibrio* infection was caused by infection with *V. parahaemolyticus.*
(4) Midway through 1992, penicillinase-producing *Neisseria gonorrhoeae* (PPNG) was no longer tested for in the Public Health Department Laboratory and are thus no longer tallied as a separate category.
(5) Effective January 10, 1998, invasive *Haemophilus influenzae* occurring in patients 30 years of age or older is no longer a reportable condition.
(6) Effective December 1, 1998, individuals with hepatitis C antibody who do not meet the criteria to be reported as hepatitis C acute (see page 16 for acute hepatitis C case surveillance definition), are to be reported as hepatitis C chronic, at the request of the California Department of Health Services.
(7) This category of bacterial meningitis does not include *Neisseria meningitidis,* which is reported separately as meningococcal meningitis or meningococcemia.
(8) Meningococcal disease includes both meningococcal meningitis and meningococcemia, regardless of the *N. meningitidis* serogroup.
(9) US data for 2000 was not available at the time this report was published.
(10) Deleted from the nationally notifiable disease list in 1995.
(11) Not a nationally notifiable disease.
(12) Became a California notifiable disease in 1993.
(13) Became a nationally notifiable disease in 1994.
(14) Incidence rates calculated using the total number of males in the population as the denominator value.
(15) Incidence rates calculated using the total number of females in the population as the denominator value.
(16) Nationally notifiable disease, but data is not published in Morbidity Mortality Tables.

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Appendix F: Data Sources

Communicable Disease (CD) Incidence Data

(For all communicable diseases except AIDS, chlamydia, gonorrhea, non-gonococcal urethritis, pelvic inflammatory disease, syphilis-all stages, and tuberculosis)

San Bernardino County
CD Data (1980-2000): San Bernardino County CD records.
Tuberculosis Data (1980-2000): San Bernardino County Tuberculosis Control Program records.

California
CD Data (1990-1995): *Communicable Diseases in California*, California Department of Health Services; (1996-2000): Direct communication with the California Department of Health Services (Provisional).
Rabies Data (1999): Krebs JW et al (1999). Rabies Surveillance in the United States during 1998. *JAVMA*, 215 (12): 1786-98.
Tuberculosis Data (1990-2000): Direct communication with the California Department of Health Services Tuberculosis Control Branch.

United States
CD Data (1991-99): US Department of Health and Human Services. (April 6, 2001). *Summary of Notifiable Diseases, United States, 1999*. Morbidity and Mortality Weekly Report, Vol. 48, No. 53.
Rabies Data (1999): Krebs JW, et al (1999). Rabies Surveillance in the United States during 1998. *JAVMA*, 215 (12): 1786-98.

Sexually Transmitted Disease (STD) and AIDS Data

(For AIDS, chlamydia, gonorrhea, non-gonococcal urethritis, pelvic inflammatory disease, and syphilis-early latent, primary and secondary, and all stages)

San Bernardino County
STD Data (1991-2000): San Bernardino County CD records.
AIDS Data (1991-2000): San Bernardino County AIDS Program records.

California
STD Data (1991-2000): California Department of Health Services, STD Control Branch records (Provisional data).
HIV Data (1991-2000): California Department of Health Services Office of AIDS records.

United States
STD Data (1990-97): California Department of Health Services. *Sexually Transmitted Disease in California, 1996 & 1997*. Sexually Transmitted Diseases Control Branch. Available: http://www.dhs.ca.gov/dcdc; (1998): US Department of Health and Human Services. (September, 1999). *Sexually Transmitted Disease Surveillance, 1998*. Centers for Disease Control and Prevention, Division of Sexually Transmitted Diseases Prevention.

Population Data

San Bernardino County & California
Population Data (1990-2000): State of California (February, 2000). *County Population Estimates and Components of Change, 1998-1999, with Historical Estimates, 1990-1998*. Department of Finance. Available: http://www.dof.ca.gov/html/Demograp/repndat.htm.

United States
Data (1990-99): US Department of Health and Human Services (April 6, 2001). *Summary of Notifiable Diseases, United States, 1999*. Morbidity and Mortality Weekly Report, Vol. 48, No. 53; (1986-89): US Department of Health and Human Services (October 21, 1994). *Summary of Notifiable Diseases, United States, 1993*. Morbidity and Mortality Weekly Report, Vol. 42, No. 53.

Healthy People 2000 Objectives

US Department of Health and Human Services. (1995). *Healthy People 2000 Midcourse Review and 1995 Revisions*. Office of Disease Prevention and Health Promotion. Available: http://158.72.20.10/pubs/hp2000/midcours.htm.

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American Public Health Association. (2000). *Control of Communicable Diseases Manual* (Seventeenth ed.). Chin J, (Ed.). Washington, DC.

Centers for Disease Control and Prevention Web Site. Available: http://www.cdc.gov.

US Department of Health and Human Services. (October 1, 1999). *Prevention of Hepatitis A Through Active or Passive Immunization: Recommendations of the Advisory Committee on Immunization Practices (ACIP)*. Morbidity and Mortality Weekly Report, Vol. 48, No. RR-12: 5.

San Bernardino County Department of Public Health. (Series FY 1998-99). *The Epidemiology and Control of Rabies at the Local Level: The San Bernardino County, California, Experience*. Preventive Veterinary Services: Special Publications No. 1. Author: Tacal, JV.

Handsfield, HH, Sparling, PF. (2000). Neisseria Gonorrhoeae. In Mandell, GL, Bennett, JE, Dolin, R (Eds.), *Principles and Practice of Infectious Diseases: Vol. 2* (Fifth ed.: 2242-58). New York, NY: Churchill Livingstone.